

## SEQUENCE LISTING

<110> Jacobs, Kenneth  
McCoy, John M.  
LaVallie, Edward R.  
Collins-Racie, Lisa A.  
Evans, Cheryl  
Merberg, David  
Treacy, Maurice  
Bowman, Michael R.  
Spaulding, Vikki  
Agostino, Michael J.  
Genetics Institute, Inc.

<120> SECRETED PROTEINS AND POLYNUCLEOTIDES ENCODING THEM

<130> GI 6011-18X

<140>  
<141>

<160> 283

<170> PatentIn Ver. 2.0

<210> 1  
<211> 565  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> (20)

<220>  
<221> unsure  
<222> (49)

<220>  
<221> unsure  
<222> (58)

<220>  
<221> unsure  
<222> (144)

<220>  
<221> unsure  
<222> (178)

<220>  
<221> unsure  
<222> (215)

<220>  
<221> unsure  
<222> (218)

<220>  
<221> unsure

&lt;222&gt; (228)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (239)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (541)

&lt;400&gt; 1

```

gattgtcagt ttccaaaaan gaggaggatt tgatattcac ttggcccng gtgatgcntt 60
tgagggtggc cgcgtccatc tggtcagaaa agacaatctt tttgtgtca agcttgaggt 120
gtggcaggct tgagatctgg ccanacactt gagtgacaat gacatccact ttgctttntc 180
tccacagggtg tccactccca ggtccaactg caganttnga attcggcntt catggcctnt 240
gaatagagac ttctggactc tatagaacct actgcctcct gatgaagtc ctactgttca 300
cccttgagct ttttatgctc ctggcccaat tggctcagg taattggtat gtgaaaaagt 360
gtctaacaga cgttggaatt tgcaagaaga agtgcaaacc tgaagagatg catacaaaga 420
ctacaagaat ttcaacagta acagcaacaa cagtcaacaa caactttgat gatgactact 480
gcttcgatgt cttcgatggc tctaccctt tctcctcact ggtggaacat tcccagcctc 540
ngtctcctgc tctaggatcc ccgac 565

```

&lt;210&gt; 2

&lt;211&gt; 94

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (87)

&lt;400&gt; 2

```

Met Lys Ser Leu Leu Phe Thr Leu Ala Val Phe Met Leu Leu Ala Gln
 1             5             10             15

Leu Val Ser Gly Asn Trp Tyr Val Lys Lys Cys Leu Asn Asp Val Gly
          20             25             30

Ile Cys Lys Lys Lys Cys Lys Pro Glu Glu Met His Thr Lys Thr Thr
          35             40             45

Arg Ile Ser Thr Val Thr Ala Thr Thr Val Asn Asn Asn Phe Asp Asp
          50             55             60

Asp Tyr Cys Phe Asp Val Phe Asp Gly Ser Tyr Pro Phe Leu Pro Leu
          65             70             75             80

Val Glu His Ser Gln Pro Xaa Ser Pro Ala Leu Gly Ser Pro
          85             90

```

&lt;210&gt; 3

&lt;211&gt; 92

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3

```

aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 92

```

<210> 4  
 <211> 2949  
 <212> DNA  
 <213> Homo sapiens

<400> 4  
 acctgctgga acgctcggac gtccttgccg gccctgtcca tgtgaggtcc aggtcatctc 60  
 ccgccaccgc agacaagcgc caggatgtgc ttttggggca agacagtggc tttggtcttg 120  
 tgaaggatcc atgttatattg gctggctcctg gatctaggtc actcagttgt tcagaaagag 180  
 gccaaagaaga gatgctgccc ctcttcacc atctcacc ccgttggggg ggttcaggct 240  
 gcaaaagccat tgggtattcc tccgttccta gtgaatgtcc tggaaacctg gaccatcaga 300  
 ggcaagccag taggacaccc tgcgccaggc caccactggc aggaacgcaa gggctgggtca 360  
 cagacaccag ggctgcaccc ctgaccccaa ttggcacc ccctgcttca gccattccct 420  
 ctggctactg ctacacaggc ggtcagacag ggcgacagcc tctcccgccc tacacccttg 480  
 ccatgatgca cagaagcaat ggtcacaccc tgaccagcc tcccgggtcca agaggctgtg 540  
 agggcgatgg ccagagcat ggggtagaag aggaacagag gaagaggggc tcgctgcctc 600  
 agtggccacc tccttctcga gcaaagtggg ccacgcagc cagagaggac agccttcctg 660  
 aggaatcctc agccctgat tttgcaaacc tgaagcacta tcaaaaacag cagagtcttc 720  
 caagtttatg cagcacttct gaccagaca cactcttg ggcccggagc actccaggga 780  
 ggatctccct ccgaatatct gactctgtcc tgcgggactc cccgccacct catgaggatt 840  
 atgaagacga agtgtttgtg aggatccgc accccaaggc cagctccagc ccacatttg 900  
 aacctcttcc ccacccccc cctctccac cgagtcagga aacccgggtg tatakcatgg 960  
 atgacttccc tccactctcc cccacactg tatgtgaggg gcagctggac agtgaggatc 1020  
 ccgagggggc agccccagc ttcaacaac tttctaaagt gacaattgca agggaaaggc 1080  
 acatgcctgg tgcagcccat gtggtaggta gtcagacact ggcttccaga ctccaaactt 1140  
 ctatcaaggg ttcagaggct gactccacac cactctctc catgagcgtt cagcccaac 1200  
 ttgctgggtc tcttggtggg cagccagcac ccattccagc tcaaagcctc agccatgatc 1260  
 cagtcagtgg aactcagggt ttagaaaaga aagtcagtc tgatcctcag aagagttcag 1320  
 aagacatcag aacagaggct ttggccaagg aaattgtcca ccaagacaaa tctctagcag 1380  
 acattttgga tccagactcc aggtgaaga caacaatgga cctgatggaa ggtttgtttc 1440  
 ccgagatgt gaacttgctg aaggaaaaca gtgtaaagag gaaggccata cagagaactg 1500  
 tcagctcttc aggatgtgaa ggcaagagga atgaagacaa ggaagcagtg agcatgttg 1560  
 ttaactgccc tgcctactac agtgtgtctg ctcccaaggc tgagctactg aaaaaaatca 1620  
 aagagatgcc agcagaagtg aatgaggaag aggaacaggc agatgtcaat gaaaagaagg 1680  
 ctgagctcat tggaaagtct acccacaagc tggagaccct ccaggaggcg aaggggagcc 1740  
 tgctcacgga catcaagtc aacaacgccc tgggagaaga ggtggaggct ctgatcagcg 1800  
 agctctgcaa gcccaatgag ttgacaagt ataggatgt cataggggat ttggacaagg 1860  
 tggtaacct gctgctctcc ctctcggggc gtctagcccg tgttgagaat gtcttagcg 1920  
 gccttggtga agatgccagt aatgaagaaa ggagctctct ttacgagaaa aggaagatcc 1980  
 tggctgggtc gcatgaggat gcccgggagc tgaaggagaa cctggatcgc agggagcgag 2040  
 tagtgctggg catcttggcc aattacctt cagaggagca gctccaggac taccagcact 2100  
 tcgtgaaaat gaagtccacg ctctcattg agcaacggaa gctggatgac aagatcaagc 2160  
 tgggccagga gcaggtcaag tgtctgctgg agagcctgcc ctgagatttc attcccaagg 2220  
 ctggggccct ggctctgccc ccaaacctca cgagttagcc cattcctgct gggggctgta 2280  
 ctttcagtgg tattttccca acattaacct ctccacttta acctcttcta aaatacccaa 2340  
 ccaaaagatc actgtttctc tcaacactat ttaatctgaa aaatgtttca gtacaaacca 2400  
 ctgtttgaac tatctgggtt attggtgttt gtctctgatg aaaggaaaaa aattctctcc 2460  
 aggaggaagc ctttttccct ctgcccctc ctgattgatc ttctgagagc tcgaatgctg 2520  
 ctggacacgt accccttcta ttattacttt gtagtagaaa gaaagttaat gaaactgaga 2580  
 actgattgga ggggtgttga tcatttagtt ttaacaggc tgaggcaaca tggatcagtg 2640  
 tgtgtccccc tcaggaatgt atccacagtg gccttccctg ctgggtgggca gtgtatcctg 2700  
 atggcagggt acaagtacca ttaatgaagg gtctgcaaca taaagcctta aaaagacaca 2760  
 cactaagaaa actgtaaaac cttgaacatt gttatttata ttttttaaaa tggaaaagat 2820  
 cactatgttt gttgtgctaa ccacttattt gattctgttt tgtgggtggc atagatgatt 2880  
 acgtttgagc tttgtatttt gtgaaaacct taatgaaatg aattccaaag ataaaaaaaa 2940  
 aaaaaaaaaa 2949

<210> 5  
 <211> 709  
 <212> PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (255)

&lt;400&gt; 5

Met Leu Pro Leu Phe His His Leu Thr Pro Arg Trp Gly Gly Ser Gly  
 1 5 10 15

Cys Lys Ala Ile Gly Asp Ser Ser Val Pro Ser Glu Cys Pro Gly Thr  
 20 25 30

Leu Asp His Gln Arg Gln Ala Ser Arg Thr Pro Cys Pro Arg Pro Pro  
 35 40 45

Leu Ala Gly Thr Gln Gly Leu Val Thr Asp Thr Arg Ala Ala Pro Leu  
 50 55 60

Thr Pro Ile Gly Thr Pro Leu Pro Ser Ala Ile Pro Ser Gly Tyr Cys  
 65 70 75 80

Ser Gln Asp Gly Gln Thr Gly Arg Gln Pro Leu Pro Pro Tyr Thr Pro  
 85 90 95

Ala Met Met His Arg Ser Asn Gly His Thr Leu Thr Gln Pro Pro Gly  
 100 105 110

Pro Arg Gly Cys Glu Gly Asp Gly Pro Glu His Gly Val Glu Glu Gly  
 115 120 125

Thr Arg Lys Arg Val Ser Leu Pro Gln Trp Pro Pro Pro Ser Arg Ala  
 130 135 140

Lys Trp Ala His Ala Ala Arg Glu Asp Ser Leu Pro Glu Glu Ser Ser  
 145 150 155 160

Ala Pro Asp Phe Ala Asn Leu Lys His Tyr Gln Lys Gln Gln Ser Leu  
 165 170 175

Pro Ser Leu Cys Ser Thr Ser Asp Pro Asp Thr Pro Leu Gly Ala Pro  
 180 185 190

Ser Thr Pro Gly Arg Ile Ser Leu Arg Ile Ser Glu Ser Val Leu Arg  
 195 200 205

Asp Ser Pro Pro Pro His Glu Asp Tyr Glu Asp Glu Val Phe Val Arg  
 210 215 220

Asp Pro His Pro Lys Ala Thr Ser Ser Pro Thr Phe Glu Pro Leu Pro  
 225 230 235 240

Pro Pro Pro Pro Pro Pro Pro Ser Gln Glu Thr Pro Val Tyr Xaa Met  
 245 250 255

Asp Asp Phe Pro Pro Pro Pro His Thr Val Cys Glu Ala Gln Leu  
 260 265 270

Asp Ser Glu Asp Pro Glu Gly Pro Arg Pro Ser Phe Asn Lys Leu Ser  
 275 280 285

Lys Val Thr Ile Ala Arg Glu Arg His Met Pro Gly Ala Ala His Val  
 290 295 300  
 Val Gly Ser Gln Thr Leu Ala Ser Arg Leu Gln Thr Ser Ile Lys Gly  
 305 310 315 320  
 Ser Glu Ala Glu Ser Thr Pro Pro Ser Phe Met Ser Val His Ala Gln  
 325 330 335  
 Leu Ala Gly Ser Leu Gly Gly Gln Pro Ala Pro Ile Gln Thr Gln Ser  
 340 345 350  
 Leu Ser His Asp Pro Val Ser Gly Thr Gln Gly Leu Glu Lys Lys Val  
 355 360 365  
 Ser Pro Asp Pro Gln Lys Ser Ser Glu Asp Ile Arg Thr Glu Ala Leu  
 370 375 380  
 Ala Lys Glu Ile Val His Gln Asp Lys Ser Leu Ala Asp Ile Leu Asp  
 385 390 395 400  
 Pro Asp Ser Arg Leu Lys Thr Thr Met Asp Leu Met Glu Gly Leu Phe  
 405 410 415  
 Pro Arg Asp Val Asn Leu Leu Lys Glu Asn Ser Val Lys Arg Lys Ala  
 420 425 430  
 Ile Gln Arg Thr Val Ser Ser Ser Gly Cys Glu Gly Lys Arg Asn Glu  
 435 440 445  
 Asp Lys Glu Ala Val Ser Met Leu Val Asn Cys Pro Ala Tyr Tyr Ser  
 450 455 460  
 Val Ser Ala Pro Lys Ala Glu Leu Leu Asn Lys Ile Lys Glu Met Pro  
 465 470 475 480  
 Ala Glu Val Asn Glu Glu Glu Gln Ala Asp Val Asn Glu Lys Lys  
 485 490 495  
 Ala Glu Leu Ile Gly Ser Leu Thr His Lys Leu Glu Thr Leu Gln Glu  
 500 505 510  
 Ala Lys Gly Ser Leu Leu Thr Asp Ile Lys Leu Asn Asn Ala Leu Gly  
 515 520 525  
 Glu Glu Val Glu Ala Leu Ile Ser Glu Leu Cys Lys Pro Asn Glu Phe  
 530 535 540  
 Asp Lys Tyr Arg Met Phe Ile Gly Asp Leu Asp Lys Val Val Asn Leu  
 545 550 555 560  
 Leu Leu Ser Leu Ser Gly Arg Leu Ala Arg Val Glu Asn Val Leu Ser  
 565 570 575  
 Gly Leu Gly Glu Asp Ala Ser Asn Glu Glu Arg Ser Ser Leu Tyr Glu  
 580 585 590  
 Lys Arg Lys Ile Leu Ala Gly Gln His Glu Asp Ala Arg Glu Leu Lys  
 595 600 605

Glu Asn Leu Asp Arg Arg Glu Arg Val Val Leu Gly Ile Leu Ala Asn  
 610 615 620  
 Tyr Leu Ser Glu Glu Gln Leu Gln Asp Tyr Gln His Phe Val Lys Met  
 625 630 635 640  
 Lys Ser Thr Leu Leu Ile Glu Gln Arg Lys Leu Asp Asp Lys Ile Lys  
 645 650 655  
 Leu Gly Gln Glu Gln Val Lys Cys Leu Leu Glu Ser Leu Pro Ser Asp  
 660 665 670  
 Phe Ile Pro Lys Ala Gly Ala Leu Ala Leu Pro Pro Asn Leu Thr Ser  
 675 680 685  
 Glu Pro Ile Pro Ala Gly Gly Cys Thr Phe Ser Gly Ile Phe Pro Thr  
 690 695 700  
 Leu Thr Ser Pro Leu  
 705

<210> 6  
 <211> 190  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (4)

<220>  
 <221> unsure  
 <222> (30)

<220>  
 <221> unsure  
 <222> (97)

<220>  
 <221> unsure  
 <222> (154)

<220>  
 <221> unsure  
 <222> (174)

<400> 6  
 cgangcgtct gcacccacac gctcacgaan catcaggagc ctgtctatag cgtatctttc 60  
 agccctgatg ggaagtactt ggccagtgga tccttcnaca agtgcgtcca tatctggaat 120  
 actcagagtg gaaatcttgt ccacagctac cgangcactg gcggcatctt ccangtgtgc 180  
 tggaacgccc 190

<210> 7  
 <211> 391  
 <212> DNA  
 <213> Homo sapiens

<400> 7

gagtggaaag gcagggggag gggcagggag caacagaagg aagagacaac aagcccaaga 60  
 cagcttccat ttcagacgga agggcccccag aagatagaat tccagccgac tgaaaaacca 120  
 cccaatgaac aaagaagatt ttagaaaaata gaaagctgtt gggattacaa agttgcgcgt 180  
 ttcacggtta caaactggtc tttgaacctc ctttgtgaga gcaattgtag tgtccaaatt 240  
 gttagggaaa acaaaaaaaaa aaaatcccaa ggaggagggt ttttccccct tccctgtttg 300  
 gtttatcaca gcatttttgc ttttttttgg cacagctttt tacgtttctt tccattcagc 360  
 catcacagag cctgttcccg gtggaaacca a 391

<210> 8

<211> 62

<212> PRT

<213> Homo sapiens

<400> 8

Thr Ser Phe Val Arg Ala Ile Val Val Ser Lys Leu Leu Gly Lys Thr  
 1 5 10 15

Lys Lys Lys Asn Pro Lys Glu Glu Gly Phe Ser Pro Phe Pro Val Trp  
 20 25 30

Phe Ile Thr Ala Phe Cys Phe Phe Phe Gly Thr Ala Phe Tyr Val Ser  
 35 40 45

Phe His Ser Ala Ile Thr Glu Pro Val Pro Gly Gly Asn Gln  
 50 55 60

<210> 9

<211> 267

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> (21)

<400> 9

tctctctctc tctccctctg nacctttctc atagttgctt cagatcttag gtctcaaggg 60  
 cactttggcg cgtagtaagt gctttatgta agaaggcagg gcaggggggc tttttacagg 120  
 agaaaaaaaa atgacttata agagaaagag cctggagtat ttttggaaaa aaaaataata 180  
 tttttatggt aaacaattt taaaatctta aaatggccat cagacataga gagctttgtg 240  
 tgattcatgt tttaaaaaaaa aaaaaaa 267

<210> 10

<211> 2178

<212> DNA

<213> Homo sapiens

<400> 10

cttttaacgg tcactcggcc ttaarccgtc ctgggtgtat gtgaggctga aagggaagga 60  
 rgaacagggt ctgggcccgt gtgtgctctg ccgtcatctc taaraaacia ccataccact 120  
 gaatgtact gtgtacttac aaaccacact catattcgtc acgtcatttc atcttcaccc 180  
 ccacctcaa atgaggcttg aaatgaagat gaagatgttc ctccctcccc tttcaaccat 240  
 ggacctcaca ctgtggactt cctcttagag cctctgagtt aggtacccaa gccaaaggcac 300  
 aatgtccctg cccccataa gactgcccag cccctatggc tctgatcggc tggtagagct 360  
 agcagccagg ctccggccag cactctgtga tactctgac accgtaggga gccaggagtt 420  
 ccccgccac agcctggtgc tagcagggtg cagccagcag ctgggcccga ggggccagt 480  
 ggctctggga gaaggcatca gcccttctac ctttggccag ctccctgaact ttgtgtatgg 540  
 ggagagtgt gagctgcagc ctggagagct aaggccctt caggaggcgg ccaggccctt 600  
 gggagtgcag tccctggaag aggcattgct gagggctcga ggggacagg ctaaaaagcc 660

```

agatccaggc ctgaagaaac atcaggagga gccagagaaa ccctcaagga atcctgagag 720
agaactgggg gaccctggag agaagcagaa accagaacag gtttctagaa ctggtggggag 780
agaacaggag atgttgcaca agcactcgcc accaagaggc agacccgaga tggcaggagc 840
aacgcaggag gtcacgagg aacagaccag gtcaaaggag aaacgcctcc aagcccctgt 900
tggccaaaag ggagcagatg ggaagcatgg agtgctcacg tggttgaggg aaaatccagg 960
gggctctgag gaaagtctgc gcaagctccc tggcccccctt ccccagcag gctccctgca 1020
aaccagcgtc acccctaggc cctcgtgggc tgaggcccct tggttgggtg ggggccagcc 1080
tgccctgtgg agcatcctgc tgatgccgcc cagatatggc attcccttct accatagcac 1140
ccccaccact ggagcctggc aggaggtctg gcgggaacag aggatcccac tgtccctaaa 1200
tgcccccaga gggctctgga gccagaacca gttggcctcc tccagcccta cccaggttc 1260
cctcccccag gggcccgac agctcagccc tggggagatg gaagagtctg atcaggggca 1320
cacaggcgca cttgcaacct gtgcgggtca tgaggacaag gcaggctgcc cacctcgccc 1380
gcacctccc ccggcccctc ctgctcggtc tcggccctat gcgtgctctg tctgtggaaa 1440
gaggttttca ctcaagcatc agatggagac gcactaccga gtccacacag gagagaagcc 1500
cttctcctgt agcctttgtc ctcagcgtc ccgggacttc tcggccatga ccaagcacct 1560
gcggacacac ggggcccgtc cgtaccgctg ctcctgtgc ggggcccgtt gtcccagcct 1620
ggcctccatg caggcgcaca tgcgcggtca ctcgccagc caactcccgc ccgatggac 1680
catccgctcc accttctct actcctctc gaggcgctc cgccctcga cctctccctg 1740
ttgtccttct tcttcacca cctgacgggg tgctcggtagc gtcttagcca agagtccaat 1800
taagaacga aaagcgggccc ggctcggctt ctgacctggc accgctgcta cggcggccta 1860
gcaaattccg cccagaagc gcccaggaa gggcggcag tgccctctcc tggacgatcg 1920
cgggtcgcag aagcccaggc cagcgagccc tacagagtga ggacactgaa gtgtgcagga 1980
gcgaaggtta acagtagggg agattgtcga tctcatcacc ataataaaga gtttctgtt 2040
gccctccctt caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2100
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2160
aaaaaaaaaa aaaaaaaaaa

```

2178

&lt;210&gt; 11

&lt;211&gt; 487

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 11

```

Met Ser Leu Pro Pro Ile Arg Leu Pro Ser Pro Tyr Gly Ser Asp Arg
  1              5              10              15

Leu Val Gln Leu Ala Ala Arg Leu Arg Pro Ala Leu Cys Asp Thr Leu
      20              25              30

Ile Thr Val Gly Ser Gln Glu Phe Pro Ala His Ser Leu Val Leu Ala
  35              40              45

Gly Val Ser Gln Gln Leu Gly Arg Arg Gly Gln Trp Ala Leu Gly Glu
  50              55              60

Gly Ile Ser Pro Ser Thr Phe Ala Gln Leu Leu Asn Phe Val Tyr Gly
  65              70              75              80

Glu Ser Val Glu Leu Gln Pro Gly Glu Leu Arg Pro Leu Gln Glu Ala
      85              90              95

Ala Arg Ala Leu Gly Val Gln Ser Leu Glu Glu Ala Cys Trp Arg Ala
  100              105              110

Arg Gly Asp Arg Ala Lys Lys Pro Asp Pro Gly Leu Lys Lys His Gln
  115              120              125

Glu Glu Pro Glu Lys Pro Ser Arg Asn Pro Glu Arg Glu Leu Gly Asp
  130              135              140

```



Pro Gly Glu Lys Gln Lys Pro Glu Gln Val Ser Arg Thr Gly Gly Arg  
 145 150 155 160  
 Glu Gln Glu Met Leu His Lys His Ser Pro Pro Arg Gly Arg Pro Glu  
 165 170 175  
 Met Ala Gly Ala Thr Gln Glu Ala Gln Gln Glu Gln Thr Arg Ser Lys  
 180 185 190  
 Glu Lys Arg Leu Gln Ala Pro Val Gly Gln Arg Gly Ala Asp Gly Lys  
 195 200 205  
 His Gly Val Leu Thr Trp Leu Arg Glu Asn Pro Gly Gly Ser Glu Glu  
 210 215 220  
 Ser Leu Arg Lys Leu Pro Gly Pro Leu Pro Pro Ala Gly Ser Leu Gln  
 225 230 235 240  
 Thr Ser Val Thr Pro Arg Pro Ser Trp Ala Glu Ala Pro Trp Leu Val  
 245 250 255  
 Gly Gly Gln Pro Ala Leu Trp Ser Ile Leu Leu Met Pro Pro Arg Tyr  
 260 265 270  
 Gly Ile Pro Phe Tyr His Ser Thr Pro Thr Thr Gly Ala Trp Gln Glu  
 275 280 285  
 Val Trp Arg Glu Gln Arg Ile Pro Leu Ser Leu Asn Ala Pro Lys Gly  
 290 295 300  
 Leu Trp Ser Gln Asn Gln Leu Ala Ser Ser Ser Pro Thr Pro Gly Ser  
 305 310 315 320  
 Leu Pro Gln Gly Pro Ala Gln Leu Ser Pro Gly Glu Met Glu Glu Ser  
 325 330 335  
 Asp Gln Gly His Thr Gly Ala Leu Ala Thr Cys Ala Gly His Glu Asp  
 340 345 350  
 Lys Ala Gly Cys Pro Pro Arg Pro His Pro Pro Pro Ala Pro Pro Ala  
 355 360 365  
 Arg Ser Arg Pro Tyr Ala Cys Ser Val Cys Gly Lys Arg Phe Ser Leu  
 370 375 380  
 Lys His Gln Met Glu Thr His Tyr Arg Val His Thr Gly Glu Lys Pro  
 385 390 395 400  
 Phe Ser Cys Ser Leu Cys Pro Gln Arg Ser Arg Asp Phe Ser Ala Met  
 405 410 415  
 Thr Lys His Leu Arg Thr His Gly Ala Ala Pro Tyr Arg Cys Ser Leu  
 420 425 430  
 Cys Gly Ala Gly Cys Pro Ser Leu Ala Ser Met Gln Ala His Met Arg  
 435 440 445  
 Gly His Ser Pro Ser Gln Leu Pro Pro Gly Trp Thr Ile Arg Ser Thr  
 450 455 460

Phe Leu Tyr Ser Ser Ser Arg Pro Ser Arg Pro Ser Thr Ser Pro Cys  
 465 470 475 480

Cys Pro Ser Ser Ser Thr Thr  
 485

<210> 12

<211> 2436

<212> DNA

<213> Homo sapiens

<400> 12

```

caacaacccat ctacagctgt attcctgttc ccttgatggc acaattaaac tgtgggacta 60
tatagatggc atcttaataa agactttcat agttggatgt aaacttcacg ccctctttac 120
tcttgcccaa gctgaggatt ctgtctttgt tatagtgaat aaagaaaaac cagatatatt 180
tcagctgggt tcagtgaaac tgccaaaatc ctcaagccag gaagtagaag ccaaggagct 240
gtcctttgtt ttggattaca taaaccagtc acccaagtgc attgcctttg gaaacgaggg 300
agtatatgtt gctgcagtac gggaatttta cttgtctgtt tttttttca aaaagaaaac 360
aacatcaagg tttactttat catcatcaag aaataagaag catgctaaaa acaattttac 420
gtgtgtagca tgtcacccaa cggaagactg catcgcatct ggtcacatgg atggcaaaat 480
tcgtctttgg aggaattttt atgatgataa gaaatatacy tacacatgtt tacattggca 540
ccatgatatg gttatggatt tggctttttc agtgacaggc accagtctgc tgagtggcgg 600
tcgtgaatct gtactttagt agtggcgaga tgcaacagag aagaataagg agtttctccc 660
gcgttttaga gctactattg aacatatctc agtctcgccg gcaggagatt tattctgcac 720
ttctcactct gataataaga taataattat tcaccgaaac cttgaagcat ccgcagtaat 780
tcaaggccta gtgaaagata ggagtatctt cactggtttg atgattgac caagaactaa 840
agctttgggt ttgaatggaa aacctggcca cctgcagttt tattctctcc agagtataa 900
acagttatac aatttagata ttatacagca agaatatatt aatgattatg gtctgatcca 960
aattgaacta acaaaggctg catttggttg ctttggtaac tggcttgcaa cagtggaaac 1020
gctgcaagaa aaggaaactg agcttgaatt gcaaatgaaa ctgtggatgt ataataagaa 1080
aacacaaggg tttattctta aactaaaaat taacatgcca cacgaagact gcattacagc 1140
tctctgtttc tgtaatgcag aaaaatctga acagcccacc ttggttacag ctacgaaaga 1200
tggttacttc aaagtatgga tattaacaga tgactctgac atatacaaaa aagctgttgg 1260
ctggacctgt gactttgttg gtagttatca caagatcaa gcaactaact gttgtttctc 1320
cgaagatggg tctttactag cagttagttt tgaggaaata gtcacaatat gggattctgt 1380
aacatgggaa cttaaatgta cttttgcca acgagctggg aaaataaggc acctttgctt 1440
tgggagattg acgtgttcaa agtatctact tgggtgctac gaaaatggca ttctttgctg 1500
ttggaatctg ctgagctgtg cattggagtg gaatgcacaaa ttaaatgtta gagttatgga 1560
acccgatcct aattcagaga atattgctgc aatctctcag tcttcagtgg gttcagactt 1620
gtttgtattt aaacctagtg agccaaggcc attgtatat caaaagggtta tctccagaga 1680
gaaagtccag tggggagtggt ttgttccacg agatgtccct gaatccttca cctcagaagc 1740
ttaccagtgg ctaaatagat ccagttttta cttcctaaca aaatcacaga gtttattgac 1800
attcagtaca aagtctccag aagaaaaact cacaccaaca agcaaacagc tgctagcaga 1860
agaaagtctt cccacaaccc cattttattt catattggga aaacacaggc aacagcagga 1920
tgaaaaacta aacgaaactt tagagaatga gctggtacaa ctacccttaa cagaaaacat 1980
acccgcaatt agtgagcttc ttcacactcc agcccatgtc ctgccatctg ctgctttcct 2040
gtgctccatg tttgtaaatt cattgctgct gtctaaagag actaagagtg ctaaggaaat 2100
tcctgaagat gtagatatgg aagaagaaaa agaaagtga gattcagatg aagaaaatga 2160
ttttaccgaa aaagtccagg atacaagtaa cacaggttta ggagaagaca ttatacatca 2220
gttgtaaaaa tctgaagaaa aagaactgag aaaatttagg aaaatagact acagctggat 2280
agctgccctt taagccttgg agatggggag gatcccttga ctttgtgttt ttgattgtat 2340
gttgatatcc taaaaacatc ttttttaatg ttatttctgt tctaaaaata agataataaa 2400
tattaacaaa ctttaaaaaa aaaaaaaaaa aaaaaa 2436

```

<210> 13

<211> 763

<212> PRT

<213> Homo sapiens

&lt;400&gt; 13

```

Asn Asn His Leu Gln Leu Tyr Ser Cys Ser Leu Asp Gly Thr Ile Lys
 1              5              10              15

Leu Trp Asp Tyr Ile Asp Gly Ile Leu Ile Lys Thr Phe Ile Val Gly
      20              25              30

Cys Lys Leu His Ala Leu Phe Thr Leu Ala Gln Ala Glu Asp Ser Val
      35              40              45

Phe Val Ile Val Asn Lys Glu Lys Pro Asp Ile Phe Gln Leu Val Ser
      50              55              60

Val Lys Leu Pro Lys Ser Ser Ser Gln Glu Val Glu Ala Lys Glu Leu
      65              70              75              80

Ser Phe Val Leu Asp Tyr Ile Asn Gln Ser Pro Lys Cys Ile Ala Phe
      85              90              95

Gly Asn Glu Gly Val Tyr Val Ala Ala Val Arg Glu Phe Tyr Leu Ser
      100              105              110

Val Tyr Phe Phe Lys Lys Lys Thr Thr Ser Arg Phe Thr Leu Ser Ser
      115              120              125

Ser Arg Asn Lys Lys His Ala Lys Asn Asn Phe Thr Cys Val Ala Cys
      130              135              140

His Pro Thr Glu Asp Cys Ile Ala Ser Gly His Met Asp Gly Lys Ile
      145              150              155              160

Arg Leu Trp Arg Asn Phe Tyr Asp Asp Lys Lys Tyr Thr Tyr Thr Cys
      165              170              175

Leu His Trp His His Asp Met Val Met Asp Leu Ala Phe Ser Val Thr
      180              185              190

Gly Thr Ser Leu Leu Ser Gly Gly Arg Glu Ser Val Leu Val Glu Trp
      195              200              205

Arg Asp Ala Thr Glu Lys Asn Lys Glu Phe Leu Pro Arg Leu Gly Ala
      210              215              220

Thr Ile Glu His Ile Ser Val Ser Pro Ala Gly Asp Leu Phe Cys Thr
      225              230              235              240

Ser His Ser Asp Asn Lys Ile Ile Ile Ile His Arg Asn Leu Glu Ala
      245              250              255

Ser Ala Val Ile Gln Gly Leu Val Lys Asp Arg Ser Ile Phe Thr Gly
      260              265              270

Leu Met Ile Asp Pro Arg Thr Lys Ala Leu Val Leu Asn Gly Lys Pro
      275              280              285

Gly His Leu Gln Phe Tyr Ser Leu Gln Ser Asp Lys Gln Leu Tyr Asn
      290              295              300

Leu Asp Ile Ile Gln Gln Glu Tyr Ile Asn Asp Tyr Gly Leu Ile Gln
      305              310              315              320

```

Ile Glu Leu Thr Lys Ala Ala Phe Gly Cys Phe Gly Asn Trp Leu Ala  
 325 330 335  
 Thr Val Glu Gln Arg Gln Glu Lys Glu Thr Glu Leu Glu Leu Gln Met  
 340 345 350  
 Lys Leu Trp Met Tyr Asn Lys Lys Thr Gln Gly Phe Ile Leu Asn Thr  
 355 360 365  
 Lys Ile Asn Met Pro His Glu Asp Cys Ile Thr Ala Leu Cys Phe Cys  
 370 375 380  
 Asn Ala Glu Lys Ser Glu Gln Pro Thr Leu Val Thr Ala Ser Lys Asp  
 385 390 395 400  
 Gly Tyr Phe Lys Val Trp Ile Leu Thr Asp Asp Ser Asp Ile Tyr Lys  
 405 410 415  
 Lys Ala Val Gly Trp Thr Cys Asp Phe Val Gly Ser Tyr His Lys Tyr  
 420 425 430  
 Gln Ala Thr Asn Cys Cys Phe Ser Glu Asp Gly Ser Leu Leu Ala Val  
 435 440 445  
 Ser Phe Glu Glu Ile Val Thr Ile Trp Asp Ser Val Thr Trp Glu Leu  
 450 455 460  
 Lys Cys Thr Phe Cys Gln Arg Ala Gly Lys Ile Arg His Leu Cys Phe  
 465 470 475 480  
 Gly Arg Leu Thr Cys Ser Lys Tyr Leu Leu Gly Ala Thr Glu Asn Gly  
 485 490 495  
 Ile Leu Cys Cys Trp Asn Leu Leu Ser Cys Ala Leu Glu Trp Asn Ala  
 500 505 510  
 Lys Leu Asn Val Arg Val Met Glu Pro Asp Pro Asn Ser Glu Asn Ile  
 515 520 525  
 Ala Ala Ile Ser Gln Ser Ser Val Gly Ser Asp Leu Phe Val Phe Lys  
 530 535 540  
 Pro Ser Glu Pro Arg Pro Leu Tyr Ile Gln Lys Gly Ile Ser Arg Glu  
 545 550 555 560  
 Lys Val Gln Trp Gly Val Phe Val Pro Arg Asp Val Pro Glu Ser Phe  
 565 570 575  
 Thr Ser Glu Ala Tyr Gln Trp Leu Asn Arg Ser Gln Phe Tyr Phe Leu  
 580 585 590  
 Thr Lys Ser Gln Ser Leu Leu Thr Phe Ser Thr Lys Ser Pro Glu Glu  
 595 600 605  
 Lys Leu Thr Pro Thr Ser Lys Gln Leu Leu Ala Glu Glu Ser Leu Pro  
 610 615 620  
 Thr Thr Pro Phe Tyr Phe Ile Leu Gly Lys His Arg Gln Gln Gln Asp  
 625 630 635 640

Glu Lys Leu Asn Glu Thr Leu Glu Asn Glu Leu Val Gln Leu Pro Leu  
                     645                    650                    655  
 Thr Glu Asn Ile Pro Ala Ile Ser Glu Leu Leu His Thr Pro Ala His  
                     660                    665                    670  
 Val Leu Pro Ser Ala Ala Phe Leu Cys Ser Met Phe Val Asn Ser Leu  
                     675                    680                    685  
 Leu Leu Ser Lys Glu Thr Lys Ser Ala Lys Glu Ile Pro Glu Asp Val  
                     690                    695                    700  
 Asp Met Glu Glu Glu Lys Glu Ser Glu Asp Ser Asp Glu Glu Asn Asp  
                     705                    710                    715                    720  
 Phe Thr Glu Lys Val Gln Asp Thr Ser Asn Thr Gly Leu Gly Glu Asp  
                     725                    730                    735  
 Ile Ile His Gln Leu Ser Lys Ser Glu Glu Lys Glu Leu Arg Lys Phe  
                     740                    745                    750  
 Arg Lys Ile Asp Tyr Ser Trp Ile Ala Ala Leu  
                     755                    760

<210> 14  
 <211> 137  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (2)

<220>  
 <221> unsure  
 <222> (18)

<220>  
 <221> unsure  
 <222> (29)..(30)

<220>  
 <221> unsure  
 <222> (36)

<220>  
 <221> unsure  
 <222> (44)

<220>  
 <221> unsure  
 <222> (49)

<220>  
 <221> unsure  
 <222> (62)

<220>

&lt;221&gt; unsure

&lt;222&gt; (67)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (80)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (93)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (99)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (108)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (112)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (121)

&lt;400&gt; 14

```

gnggggggagg atgaatantc ggaagctggn gcggcngcgg gganccaang aagaggttcc 60
gnaccngct tacgaaccgn ggactcttga ctncaccaac cctgaacnct cncctccaaa 120
ngcgtcatgg atggaat                                     137

```

&lt;210&gt; 15

&lt;211&gt; 539

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 15

```

gtggaggagg agtgaattct gggaatctct cagcagcttt ttgccaaaca gatggggccag 60
gagccgcgga accaggctga ggaatgttgc ctcacgatct ctcatatcca ttcctggcac 120
ccaccagccc agggaatgcc tctaccagtt gtcagcgaga ggcttacaca gcatcttaaa 180
taaaagggat tattgaacca agaggccagg gactgatgga aatgcccacc ttgctggctc 240
attgaaaaag tttggcaagg ttgtcaggag acatgaatta gatgggcttg ggtcttgtgc 300
cctttgctaa accaagtgtc gtattgggaa agagacgggg agagaagtgt tggagatgct 360
cttttagtcag gcctgagtc cttgccaac cctggagtgt gagttgggga tggagccagg 420
atctccaaac cacatgcccc tagagtttca gggaaaatat ggattgtgaa ttgaagatgg 480
ggggtgatgt aaggcagaca aggacagaaa atccctcttc cagctgtgat ttggctgtg 539

```

&lt;210&gt; 16

&lt;211&gt; 27

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 16

```

Met Asp Cys Glu Leu Lys Met Gly Gly Asp Val Arg Gln Thr Arg Thr
  1              5              10              15

```

```

Glu Asn Pro Ser Ser Cys Asp Leu Ala Val
          20              25

```

<210> 17  
 <211> 99  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (50)

<220>  
 <221> unsure  
 <222> (55)..(56)

<220>  
 <221> unsure  
 <222> (62)

<220>  
 <221> unsure  
 <222> (64)

<220>  
 <221> unsure  
 <222> (84)

<400> 17  
 agagaggcag atccccaatg aggggtcagg acgggtcttg gctgcacatn ctggnntcat 60  
 antnatccca tggggagcag cacnttatga aaaaaaaaaa 99

<210> 18  
 <211> 2608  
 <212> DNA  
 <213> Homo sapiens

<400> 18  
 attagccact gcacctggct ggtgtctcca ttttacagat gaggtgtgca ccccccaata 60  
 tcacacagcc aagtggcaga gttgtgttca aatgctggca gtcaggccat gctctgtctg 120  
 artccaract ctgccacttt ctarctgtgt gttctcgggc aggttattta ccaactttga 180  
 agtccatttt cttatcccta aaagagggtc gagaagctca cccctacctt tgaaggttgt 240  
 ttgaggatta agcaagacca gcatctgaag ggcctgaagc atctagggca tcatcagtgc 300  
 actttatctc tggcctctaa gaagtgcac tagaaggagc ccactgtcac agcttccttg 360  
 tacccttgcc ttgacctgac aggtagcact tcggtttgga cctcactttt tcaggatttg 420  
 ttggaaacaa gatcccttat cttctctagg tcagatttgg ggtgaacttg gctgacagta 480  
 ttccagggca ggcagagggtc aggtctggctg gtgacctgct gcctccttcc catcggcagc 540  
 tagttctagg gccatccaca gggatcccca gccctccata gtaccagtga gcctcactgg 600  
 catgtgccag ggccaagagg gccttcagcg tcgcctccag tccagccctg tcctcgattt 660  
 cttggggaca ctgtggctca gccagcacag tgctctcccc ttgcctggat gcgtgaggaa 720  
 cctcgagtgg gccagtggca ggcacagagc tgctctcccc ttgcctggat gcgtgaggaa 780  
 aggaactctt ctccctgcag ccagccctg caggctctct gctgccagat gacgagttaa 840  
 gatgaaagtc ctgatgtcta ttgtctgtgt gcacagagct ttggagtggc ctggccaggaa 900  
 agaggggaag cgtgtgtggg gtcagacaaa ggggttgccg ggatcttggt tactggttct 960  
 gctctgctgc tggttccctc tgaaaatgtg ggtttctccc ctccgtgctg agcctcagaa 1020  
 aggggcaggg agccccatgc cagcacacat ggccctcagg ctctctggcc tctgcagggt 1080  
 cagcccagct ccttcacctc tctctgctt tccctcagg cctcagtga cccacacccc 1140  
 cttcaggccc aagcctggat ggtaccggat ggaacagctt ccagtcgtcg gatgccactg 1200  
 agccccccag ccctgctctt ggcccaggcc ccagtatgg aaagccgacc cccagcgtag 1260  
 acatccctgc cagcaagcag cggctctggac gacctagacc tctgggggaa gacctcctg 1320  
 cagcagtcgc tgcccccgga atcccagcaa gtgcgggtggg agaagcagca gccaaccccc 1380  
 cggctcacac tccgggacct gcagaataag agcagcagct gcagctcccc cagctccagc 1440

```

gccaccagcc ttctccacac cgtgtcccca gagecccccga ggcctccgca gcagcccgtta 1500
ccaaccgagc tctcactggc cagcatcact gtgcccctgg agtccatcaa acccagcaac 1560
atcctgcccg tgactgtgta tgaccagcac ggcttccgca tcctcttcca ttttgcccgg 1620
gaccactgc cagggcgctc cgacgtgctg gtggtggtgg tttccatgct gagcaccgcc 1680
ccccagccca tccgcaacat cgtgttcag tcagctgtcc ccaaggttat gaaggtgaag 1740
ctgcagccac cctcgggcac ggagctgcca gcttttaacc ccatcgcca cccctcagca 1800
atcaccagc tctgtgtgct tgccaacccc cagaaggaga aggttcgcct ccgctacaag 1860
ctcaccttca ccatgggtga ccagacctac aacgagatgg gggatgtgga ccagttcccc 1920
ccacctgaaa cctggggtag cctctagaac agaggggctg gggagaggaa ggggcagagg 1980
gaccggtcac tgtccagcct ggagggagggc attggtggcc aaggacaccc tttgttggcc 2040
atggccattc acccccaggg ctggtgcttc tccccacacc cctgtaggcc tcaagtgact 2100
cttccccctc ctgctccggc cccgcccctg ctgagccaaa cccagtagga ggctgggct 2160
gggtttgtgc cgctggggtc tccatcaccc ggacctggag agggaggggc tgtgtagcct 2220
tggaagaact tgggtcatgg ggaggaagca cagctgttgg ggaagggcca ggacctcagg 2280
cccagcccca accccagctg ggggtggggtc ttccccacct gtctcttatg ccttatggga 2340
aggcccagcc ataactcggg ggccatgctc gagctgggga ccagcttagg cctctatgg 2400
gtgtcttacg tctgtccatc catctgtccg tggtcagaag tggggtcagt gtgtgagtga 2460
gagcaggagt atttatgaaa ataaaacgtc gtttttctctg gaaaaaaaaa aaaaaaaaaa 2520
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2580
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa
2608

```

&lt;210&gt; 19

&lt;211&gt; 236

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 19

```

Met Glu Ser Arg Pro Pro Ala Gln Thr Ser Leu Pro Ala Ser Ser Gly
  1              5              10              15

Leu Asp Asp Leu Asp Leu Leu Gly Lys Thr Leu Leu Gln Gln Ser Leu
      20              25              30

Pro Pro Glu Ser Gln Gln Val Arg Trp Glu Lys Gln Gln Pro Thr Pro
      35              40              45

Arg Leu Thr Leu Arg Asp Leu Gln Asn Lys Ser Ser Ser Cys Ser Ser
      50              55              60

Pro Ser Ser Ser Ala Thr Ser Leu Leu His Thr Val Ser Pro Glu Pro
      65              70              75              80

Pro Arg Pro Pro Gln Gln Pro Val Pro Thr Glu Leu Ser Leu Ala Ser
      85              90              95

Ile Thr Val Pro Leu Glu Ser Ile Lys Pro Ser Asn Ile Leu Pro Val
      100              105              110

Thr Val Tyr Asp Gln His Gly Phe Arg Ile Leu Phe His Phe Ala Arg
      115              120              125

Asp Pro Leu Pro Gly Arg Ser Asp Val Leu Val Val Val Val Ser Met
      130              135              140

Leu Ser Thr Ala Pro Gln Pro Ile Arg Asn Ile Val Phe Gln Ser Ala
      145              150              155              160

Val Pro Lys Val Met Lys Val Lys Leu Gln Pro Pro Ser Gly Thr Glu
      165              170              175

```



Leu Pro Ala Phe Asn Pro Ile Val His Pro Ser Ala Ile Thr Gln Val  
 180 185 190

Leu Leu Leu Ala Asn Pro Gln Lys Glu Lys Val Arg Leu Arg Tyr Lys  
 195 200 205

Leu Thr Phe Thr Met Gly Asp Gln Thr Tyr Asn Glu Met Gly Asp Val  
 210 215 220

Asp Gln Phe Pro Pro Pro Glu Thr Trp Gly Ser Leu  
 225 230 235

<210> 20  
 <211> 328  
 <212> DNA  
 <213> Homo sapiens

<400> 20  
 agacttcgaa ttcggccttc atggcctara aaaactgatt cacctggcag agacctaccc 60  
 catccacatg cacagccagc tggaccacct tagcctctat tactgcaggt gtactctgcc 120  
 agagaatcca aacaatcaca cctccagta ctggaaggac cacaacatcg tgacagcaga 180  
 agtccactgg gctaacctga ctgtcagtga atgccaggag atgcatggag agttcatggg 240  
 atctgcgtgc ggccatcatg gaccctacac tcctgatgtc ctcttttggt cctgtattct 300  
 ctttttcacc accttcaccc tctcaagc 328

<210> 21  
 <211> 87  
 <212> PRT  
 <213> Homo sapiens

<400> 21  
 Met His Ser Gln Leu Asp His Leu Ser Leu Tyr Tyr Cys Arg Cys Thr  
 1 5 10 15

Leu Pro Glu Asn Pro Asn Asn His Thr Leu Gln Tyr Trp Lys Asp His  
 20 25 30

Asn Ile Val Thr Ala Glu Val His Trp Ala Asn Leu Thr Val Ser Glu  
 35 40 45

Cys Gln Glu Met His Gly Glu Phe Met Gly Ser Ala Cys Gly His His  
 50 55 60

Gly Pro Tyr Thr Pro Asp Val Leu Phe Trp Ser Cys Ile Leu Phe Phe  
 65 70 75 80

Thr Thr Phe Ile Leu Ser Ser  
 85

<210> 22  
 <211> 326  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (1)

<220>  
 <221> unsure  
 <222> (31)

<220>  
 <221> unsure  
 <222> (82)

<220>  
 <221> unsure  
 <222> (84)

<220>  
 <221> unsure  
 <222> (129)

<400> 22  
 naaatgtatt tataatgtatg tcttattata nacaaggcag atttcccctg gaataaaaagt 60  
 ctagaatgta ctgcttaatt tnanacatgt gtgcaggcaa tattatctgt gagtgaaaag 120  
 tggaataana cgtggattgg gtcaactgat tatcagcttg ttaggagtcc tctgtgtgag 180  
 acatgggtggg ataattgtga agttctcact gtatgtggat gttcatgtga aagatagtac 240  
 tttcttcccg taaatatctt ttgatttcca tttgtatgga atcccaatga atgtatcttt 300  
 ggaaaacaaa aaaaaaaaaa aaaaaa 326

<210> 23  
 <211> 194  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (55)

<220>  
 <221> unsure  
 <222> (73)

<220>  
 <221> unsure  
 <222> (119)

<220>  
 <221> unsure  
 <222> (126)

<220>  
 <221> unsure  
 <222> (137)

<220>  
 <221> unsure  
 <222> (174)

<400> 23  
 aagtctcatt ctcaagagtg atgctgcaaa accccttttg ggccatgatg ctgtnatcca 60  
 ggcttttagca canaaaggte tttatgtcac tgaccaggaa aaattggtaa ctgaacgana 120  
 tctccncaag aaaccntac agatgagtgac acatttgggc catgatcgat accncatgat 180  
 ggcttatact gtat 194

<210> 24

<211> 396  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (139)

<400> 24  
 ttcatttttta ctgtcctgat gttgtcagat tagaggatat ttgtttgaaa gaaactatgt 60  
 ctttggtcga tagcctgtat aatctgcagc tgattcaaga attttgccaa gaatacttga 120  
 accagtgttg ccatttcant ctggaagata tgctctatgc tgcttcatcc ataaagagta 180  
 attatttggg gttcatggcg gaactgttct ggtggtttga agtgggtgaag ccgtcttttg 240  
 tacagcctcg tgttggtcgt ccacaaggag ctgaacctgt aaaagatatg ctttcaattc 300  
 ctgtcttgaa tgctgcaaaa agaaatgtct tagatagtag ttctgacttc ctttcaagtg 360  
 ggggaaggagc tacatttaca cagtctcatc tcgagg 396

<210> 25  
 <211> 113  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> UNSURE  
 <222> (28)

<400> 25  
 Met Ser Leu Ala Asp Ser Leu Tyr Asn Leu Gln Leu Ile Gln Glu Phe  
 1 5 10 15  
 Cys Gln Glu Tyr Leu Asn Gln Cys Cys His Phe Xaa Leu Glu Asp Met  
 20 25 30  
 Leu Tyr Ala Ala Ser Ser Ile Lys Ser Asn Tyr Leu Val Phe Met Ala  
 35 40 45  
 Glu Leu Phe Trp Trp Phe Glu Val Val Lys Pro Ser Phe Val Gln Pro  
 50 55 60  
 Arg Val Val Arg Pro Gln Gly Ala Glu Pro Val Lys Asp Met Pro Ser  
 65 70 75 80  
 Ile Pro Val Leu Asn Ala Ala Lys Arg Asn Val Leu Asp Ser Ser Ser  
 85 90 95  
 Asp Phe Pro Ser Ser Gly Glu Gly Ala Thr Phe Thr Gln Ser His Leu  
 100 105 110  
 Glu

<210> 26  
 <211> 336  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (87)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (123)

&lt;400&gt; 26

```

aatttgatga tgaccagaaa gtatgctgtg gttctttttt aaggatgac aaaaagcaga 60
aatgatatg gcaatgaaac gggcagnttt gttggagaaa agattaagaa gggaaaagga 120
aantcagctc cggaacaac agttggaagc agaaatggag cataagaagg aggaaacaag 180
gcgtaaaact gaggaagaac gtcagaagaa agaagatgag agagcacgca gagaatttat 240
taggcaagaa tatatgaggc ggaaacaact gaaactaatg gaagatatgg atacagtaat 300
taaaccctgt cctcaagtag taaaaaaaaa aaaaaa 336

```

&lt;210&gt; 27

&lt;211&gt; 917

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 27

```

cacctggatt atctcagtag tttcccaact ggtttccttg tttccattct tgcctccttc 60
tgtctactct caatataaca gctagaacaa tccttttaca atggaattca gatcatgttt 120
acctctctgt tcaaattctc cagtgaactt ccagttttta catgatctgg ctctactac 180
ctgtctcact gtgtttccta ctactctcct gccctttctc ctcttaataa acactgggct 240
catgggtgttt cctttaacat gccaggcatg cttgaccctg tctgtctca gggccctgct 300
gttccctctg cctggaacat tcttcccata gtgtctgcat ggctcgctct ctactgctt 360
tggattgctg ctcaaaagtc accttatcaa aggcctttcc caaaggttta aaaatcattc 420
tactataaag acacatgcat acatatgttt attgcagcac tattcacaat aacaaagact 480
tggaaccaac ccaaatgccc atcaatgata gactggataa agaaaatag gcacgtaagc 540
accatggaat actatgcagc cataaaaaag aatgagttca tgtcctttgc agggacatgg 600
atgaagctgg aaaccattat tctcagcaaa ctaacacagg aacagaaaac caaacaccgc 660
atgttctcac tcataagtgg gagttgaaca atgagaacat acgggcacag tggggggaac 720
atcacacacc agggcctgtc ggggggtgag aggcaaggga agtgatagca ttaagagaaa 780
tacctaagt agattatggg ttgatggggg cagcaaacca ccatggcaca tgtgtacct 840
tgtaacaaac ctgcacattc tgcacatata tcccagaact taaagtataa ttaagaaaa 900
agaaaaaaaa aaaaaa 917

```

&lt;210&gt; 28

&lt;211&gt; 76

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 28

```

Met Glu Phe Arg Ser Cys Leu Pro Leu Cys Ser Asn Ser Pro Val Thr
  1              5              10              15

```

```

Phe Gln Phe Leu His Asp Leu Ala Pro Thr Thr Cys Leu Thr Val Phe
      20              25              30

```

```

Pro Thr Thr Leu Leu Pro Phe Leu Leu Leu Ile Asn Thr Gly Leu Met
    35              40              45

```

```

Val Phe Pro Leu Thr Cys Gln Ala Cys Leu Thr Leu Ser Cys Leu Arg
    50              55              60

```

```

Ala Leu Leu Phe Pro Leu Pro Gly Thr Phe Phe Pro
    65              70              75

```

&lt;210&gt; 29

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 29

```

ggctttgacc gctatcgcca ggagtggatg gactatggct gtgcacagga ggcagagggc 60
aggatgtgcg aggacttcca ggatgaggac cacgactcag cctcccctga cacttccttc 120
agcccctatg atggagacct caccamtacc tcctcctccc tcttcacga cagcctcacc 180
acagaagatg acaccaagtt gaatccctat gcaggaggag acggccttca gaacaacctg 240
tcccccaaga caaagggcac tcctgtgcac ctgggcacca tcgtgggcat cgtgctggca 300
gtcctcctcg tggcggccat catcctggct ggaatttaca tcaatggcca c          351

```

&lt;210&gt; 30

&lt;211&gt; 108

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (40)

&lt;400&gt; 30

```

Met Asp Tyr Gly Cys Ala Gln Glu Ala Gly Arg Met Cys Glu Asp
 1              5              10              15
Phe Gln Asp Glu Asp His Asp Ser Ala Ser Pro Asp Thr Ser Phe Ser
      20              25              30
Pro Tyr Asp Gly Asp Leu Thr Xaa Thr Ser Ser Ser Leu Phe Ile Asp
      35              40              45
Ser Leu Thr Thr Glu Asp Asp Thr Lys Leu Asn Pro Tyr Ala Gly Gly
      50              55              60
Asp Gly Leu Gln Asn Asn Leu Ser Pro Lys Thr Lys Gly Thr Pro Val
      65              70              75              80
His Leu Gly Thr Ile Val Gly Ile Val Leu Ala Val Leu Leu Val Ala
      85              90              95
Ala Ile Ile Leu Ala Gly Ile Tyr Ile Asn Gly His
      100              105

```

&lt;210&gt; 31

&lt;211&gt; 179

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (24)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (33)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (56)

<220>  
 <221> unsure  
 <222> (82)

<220>  
 <221> unsure  
 <222> (93)

<220>  
 <221> unsure  
 <222> (99)

<220>  
 <221> unsure  
 <222> (117)

<220>  
 <221> unsure  
 <222> (137)

<400> 31  
 gttgtcagcc ccttcctttc ccngaccta aanataaaag acaaggcaaa gcccgntaa 60  
 ttttaagacg gtttttttagg anattagtc acnattttnt tggtttgatg gttttcngaa 120  
 ataaagtccc tttcctnget ccaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 179

<210> 32  
 <211> 3906  
 <212> DNA  
 <213> Homo sapiens

<400> 32  
 ggaaactcag ccacctgtga caaatattgag tgtctctgtt gaaaacctct gcacagtaat 60  
 atggacatgg aatccacccg agggagccag ctcaaattgt agtctatggg atttttagtca 120  
 ttttgggcag aaacaagata agaaaatagc tccggaaact cgtcgttcaa tagaagtacc 180  
 cctgaatgag aggatattgtc tgcaagtggg gtcccagtg agcaccaatg agagtggaga 240  
 gcctagcatt ttggttgaaa aatgcatctc acccccagaa ggtgatcctg agtctgctgt 300  
 gactgagctt caatgcattt ggcacaacct gagctacatg aagtgttctt ggctccctgg 360  
 aaggaatacc agtcccgcaca ctaactatac tctctactat tggcacagaa gcctggaaaa 420  
 aattcatcaa tgtgaaaaca tcttttagaga aggccaatac ttgggttggt cctttgatct 480  
 gaccagaagt aaggattcca gttttgaaca acacagtgtc caaataatgg tcaaggataa 540  
 tgcaggaaaa attaaacat ccttcaatat agtgccttta acttcccgtg tgaaacctga 600  
 tctccacat attaaaaacc tctccttcca caatgatgac ctatatgtgc aatgggagaa 660  
 tccacagaat tttattagca gatgcctatt ttatgaagta gaagtcaata acagccaaac 720  
 tgagacacat aatgttttct acgtccaaga ggctaaatgt gagaatccag aatttgagag 780  
 aaatgtggag aatacatctt gtttcatggg ccctgggtgt cttctgata ctttgaacac 840  
 agtcagaata agagtcaaaa caaataagtt atgctatgag gatgacaaac tctggagtaa 900  
 ttggagccaa gaaatgagta taggtaagaa ggcgaattcc aactctaca taaccatgtt 960  
 actcattgtt ccagtcacgtc tgcaggtgc aatcatagta ctctgcttt acctaaaaag 1020  
 gctcaagatt attatattcc ctccaattcc tgatcctggc aagattttta aagaaatgtt 1080  
 tggagaccag aatgatgata ctctgactg gaagaagtac gacatctatg agaagcaaac 1140  
 caaggaggaa accgactctg tagtgctgat agaaaacctg aagaaagcct ctcaagtatg 1200  
 gagataattt atttttacct tcaactgtgac cttgagaaga ttcttcccat tctccatttg 1260  
 ttatctggga acttattaaa tggaaactga aactactgca ccatttaaaa acaggcagct 1320  
 cataagagcc acaggtcttt atgttgagtc ggcaccgaa aaactaaaaa taatgggcgc 1380  
 tttggagaag agtgtggagt cattctcatt gaattataaa agccagcagg cttcaaaacta 1440  
 ggggacaaaag caaaaagtga tgataqgtgt ggagttaatc ttatcaagag ttgtgacaac 1500  
 ttcttgaggg atctatactt gctttgtgtt ctttgtgtca acatgaacaa attttatttg 1560  
 taggggaact catttggggt gcaaatgcta atgtcaaac tgagtcacaa agaacatgta 1620  
 gaaaacaaaa tggataaaat ctgatatgta ttgtttggga tcctattgaa ccattgtttgt 1680  
 ggctattaaa actcttttaa cagctctggc tgggtccggt ggctcacgcc tgtaatccca 1740

```

gcaatttggg agtccgagge gggcggatca ctcgagggtca ggagttccag accagcctga 1800
ccaaaatggt gaaacctcct ctctactaaa actacaaaaa ttaactgggt gtggtggcgc 1860
gtgcctgtta tcccagctac tcgggaagct gaggcagggtg aattgtttga acctgggagg 1920
tgagaggtgc agtgagcaga gatcacacca ctgcactcta gcctgggtga cagagcaaga 1980
ctctgtctaa aaaacaaaac aaaacaaaac aaaacaaaaa aacctcttaa tattctggag 2040
tcatcattcc ctctgacagc attttcctct gctttgaaag cccagaaat cagtgttggc 2100
catgatgaca actacagaaa aaccagagge agcttctttg ccaagacctt tcaaagccat 2160
tttaggctgt taggggcagt ggaggttagaa tgactccttg ggtattagag tttcaaccat 2220
gaagtctcta acaatgtatt ttcttcacct ctgctactca agtagcattt actgtgtctt 2280
tggtttgtgc taggcccccg ggtgtgaagc acagaccctt tccaggggtt tacagtctat 2340
ttgagactcc tcagtctctg ccactttttt tttaattctc accagtcatt tttcagacct 2400
tttaactcct caattccaac actgatttcc ccttttgcat tctccctcct tcccttctt 2460
gtagcctttt gactttcatt ggaaattagg atgtaaatct gctcaggaga cctggaggag 2520
cagaggataa ttagcatctc aggttaagtg tgagtaatct gagaacaat gactaattct 2580
tgcataattt gtaacttcca tgtgagggtt ttcagcattg atatttgtgc attttctaaa 2640
cagagatgag gtggtatctt cacgtagaac attggtattc gcttgagaaa aaaagaatag 2700
ttgaacctat ttctctttct ttacaagatg ggtccaggat tctctttttc tctgccataa 2760
atgattaatt aaatagcttt tgtgtcttac attggtagcc agccagccaa ggctctgttt 2820
atgcttttgg ggggcatata ttgggttcca ttctcaccta tccacacaac atatccgtat 2880
atatccctc tactcttact tcccccaat ttaaagaagt atgggaaatg agaggcattt 2940
ccccacccc atttctctcc tcacacacag actcatatta ctggtaggaa cttgagaact 3000
ttatttccaa gttgttcaaa cattttacaa tcatattaat acaatgatgc tatttgcaat 3060
tcctgtcctt aggggagggg agataagaaa ccctcactct ctacagggtt ggttacaagt 3120
ggcaacctgc ttccatggcc gtgtagaagc atggtgccct ggcttctctg aggaagctgg 3180
ggttcatgac aatggcagat gtaaagtat tcttgaagtc agattgagge tgggagacag 3240
ccgtagtaga tgttctactt tgttctgctg ttctctagaa agaataattg gtttctctgt 3300
ataggaatga gattaattcc tttccaggta tttataatt ctgggaagca aaacctatgc 3360
ctccccctag ccatttttac tgttatccta tttagatggc catgaagagg atgctgtgaa 3420
attcccaaca aacattgatg ctgacagtca tgcagtctgg gagtggggaa gtgatctttt 3480
gttcccatcc tcttctttta gcagtaaaat agctgaggga aaagggaggg aaaaggaagt 3540
tatgggaata cctgtggtgg ttgtgatccc taggtcttgg gagctcttgg aggtgtctgt 3600
atcagtggat ttcccatccc ctgtgggaaa ttagtaggct catttactgt tttaggtcta 3660
gcctatgtgg attttttctt aacatacyta agcaaaccce gtgtcaggat ggtaattctt 3720
attctttctg tcagttaagt ttttcccttc atctggggac tgaagggata tgtgaaacaa 3780
tgtaacatt tttggtagtc ttcaaccagg gattgtttct gtttaacttc ttatagggaa 3840
gcttgagtaa aataaatatt gtctttttgt atgtcaccca aaaaaaaaaa aaaaaaaaaa 3900
aaaaaa

```

<210> 33  
 <211> 286  
 <212> PRT  
 <213> Homo sapiens

<400> 33  
 Met Lys Cys Ser Trp Leu Pro Gly Arg Asn Thr Ser Pro Asp Thr Asn  
 1 5 10 15  
 Tyr Thr Leu Tyr Tyr Trp His Arg Ser Leu Glu Lys Ile His Gln Cys  
 20 25 30  
 Glu Asn Ile Phe Arg Glu Gly Gln Tyr Leu Gly Cys Ser Phe Asp Leu  
 35 40 45  
 Thr Lys Val Lys Asp Ser Ser Phe Glu Gln His Ser Val Gln Ile Met  
 50 55 60  
 Val Lys Asp Asn Ala Gly Lys Ile Lys Pro Ser Phe Asn Ile Val Pro  
 65 70 75 80  
 Leu Thr Ser Arg Val Lys Pro Asp Pro Pro His Ile Lys Asn Leu Ser

85					90					95						
Phe	His	Asn	Asp	Asp	Leu	Tyr	Val	Gln	Trp	Glu	Asn	Pro	Gln	Asn	Phe	
100					105					110						
Ile	Ser	Arg	Cys	Leu	Phe	Tyr	Glu	Val	Glu	Val	Asn	Asn	Ser	Gln	Thr	
115					120					125						
Glu	Thr	His	Asn	Val	Phe	Tyr	Val	Gln	Glu	Ala	Lys	Cys	Glu	Asn	Pro	
130					135					140						
Glu	Phe	Glu	Arg	Asn	Val	Glu	Asn	Thr	Ser	Cys	Phe	Met	Val	Pro	Gly	
145					150					155					160	
Val	Leu	Pro	Asp	Thr	Leu	Asn	Thr	Val	Arg	Ile	Arg	Val	Lys	Thr	Asn	
165					170					175						
Lys	Leu	Cys	Tyr	Glu	Asp	Asp	Lys	Leu	Trp	Ser	Asn	Trp	Ser	Gln	Glu	
180					185					190						
Met	Ser	Ile	Gly	Lys	Lys	Arg	Asn	Ser	Thr	Leu	Tyr	Ile	Thr	Met	Leu	
195					200					205						
Leu	Ile	Val	Pro	Val	Ile	Val	Ala	Gly	Ala	Ile	Ile	Val	Leu	Leu	Leu	
210					215					220						
Tyr	Leu	Lys	Arg	Leu	Lys	Ile	Ile	Ile	Phe	Pro	Pro	Ile	Pro	Asp	Pro	
225					230					235					240	
Gly	Lys	Ile	Phe	Lys	Glu	Met	Phe	Gly	Asp	Gln	Asn	Asp	Asp	Thr	Leu	
245					250					255						
His	Trp	Lys	Lys	Tyr	Asp	Ile	Tyr	Glu	Lys	Gln	Thr	Lys	Glu	Glu	Thr	
260					265					270						
Asp	Ser	Val	Val	Leu	Ile	Glu	Asn	Leu	Lys	Lys	Ala	Ser	Gln			
275					280					285						

<210> 34  
 <211> 1605  
 <212> DNA  
 <213> Homo sapiens

<400> 34  
 acgctgacca tcacaggcac acagaggcac atccacctca catccacctc atacttggtgt 60  
 actctcaggg ttccagtcttt catcctatcc ctctctgac tgtgcctccc aataccttcc 120  
 aagatgttta cagagaccct tctccctgtg cagttaggag tgtaaggcaa gagagccctt 180  
 acttcatggg gcagatcaag agctgagacc aaagatggc tatgttgctg accttgctct 240  
 gtccctctgc tgtcttaaac tatgatccct gctgcgggtc ctgaagcctt tccctgtgag 300  
 cagtgggtgtg tgagagccag gcgtccctct gctgcccac tcagtggcaa caccggggag 360  
 ctgttttgtc ctttgtggag cctcagcagt tccctctttc agaactcact gccaaagacc 420  
 ctgaacagga gccaccatgc agtgcttcag cttcattaa accatgatga tccctcttcaa 480  
 tttgctcatc tttctgtgtg gtgcagccct gttggcagtg ggcattctggg tgtcaatcga 540  
 tggggcatcc tttctgaaga tcttcgggcc actgtcgtcc agtgccatgc agtttgctcaa 600  
 cgtgggctac ttcctcatcg cagccggcgt tgtggtcttt gctcttggtt tccctgggctg 660  
 ctatgggtgt aagactgaga gcaagtgtgc cctcgtgacg ttcttcttca tccctctcct 720  
 catcttcatt gctgaggttg cagctgctgt ggtcgccttg gtgtacacca caatggctga 780  
 gcacttccctg acgttgctgg tagtgccctg catcaagaaa gattatggtt cccaggaaga 840  
 cttcactcaa gtgtggaaca ccaccatgaa agggctcaag tgctgtggct tcaccaacta 900



```

tacggatttt gaggactcac cctacttcaa agagaacagt gcctttcccc cattctgttg 960
caatgacaac gtcaccaaca cagccaatga aacctgcacc aagcaaaagg ctcacgacca 1020
aaaagtagag ggttgcttca atcagctttt gtatgacatc cgaactaatg cagtcaccgt 1080
gggtggtgtg gcagctggaa ttgggggcct cgagctggct gccatgattg tgtccatgta 1140
tctgtactgc aatctacaat aagtccactt ctgcctctgc cactactgct gccacatggg 1200
aactgtgaag aggcaccctg gcaagcagca gtgattgggg gaggggacag gatctaacaa 1260
tgtcacttgg gccagaatgg acctgccctt tctgctccag acttgggggt agatagggac 1320
cactcctttt aggcgatgcc tgactttcct tccattgggt ggtggatggg tggggggcat 1380
tccagagcct ctaaggtagc cagttctgtt gccattccc ccagtctatt aaacccttga 1440
tatgccccct aggcctagtg gtgatcccg tgctctactg ggggatgaga gaaaggcatt 1500
ttatagcctg ggcataatg aaatcagcag agcctctggg tggatgtgta gaaggcactt 1560
caaatgcat aaacctgtta caatgttgaa aaaaaaaaaa aaaaa 1605

```

&lt;210&gt; 35

&lt;211&gt; 241

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 35

```

Met Gln Cys Phe Ser Phe Ile Lys Thr Met Met Ile Leu Phe Asn Leu
  1                      5                      10                      15

```

```

Leu Ile Phe Leu Cys Gly Ala Ala Leu Leu Ala Val Gly Ile Trp Val
      20                      25                      30

```

```

Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser
      35                      40                      45

```

```

Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly
      50                      55                      60

```

```

Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr
      65                      70                      75                      80

```

```

Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile
      85                      90                      95

```

```

Phe Ile Ala Glu Val Ala Ala Ala Val Val Ala Leu Val Tyr Thr Thr
      100                     105                     110

```

```

Met Ala Glu His Phe Leu Thr Leu Leu Val Val Pro Ala Ile Lys Lys
      115                     120                     125

```

```

Asp Tyr Gly Ser Gln Glu Asp Phe Thr Gln Val Trp Asn Thr Thr Met
      130                     135                     140

```

```

Lys Gly Leu Lys Cys Cys Gly Phe Thr Asn Tyr Thr Asp Phe Glu Asp
      145                     150                     155                     160

```

```

Ser Pro Tyr Phe Lys Glu Asn Ser Ala Phe Pro Pro Phe Cys Cys Asn
      165                     170                     175

```

```

Asp Asn Val Thr Asn Thr Ala Asn Glu Thr Cys Thr Lys Gln Lys Ala
      180                     185                     190

```

```

His Asp Gln Lys Val Glu Gly Cys Phe Asn Gln Leu Leu Tyr Asp Ile
      195                     200                     205

```

```

Arg Thr Asn Ala Val Thr Val Gly Gly Val Ala Ala Gly Ile Gly Gly
      210                     215                     220

```

Leu Glu Leu Ala Ala Met Ile Val Ser Met Tyr Leu Tyr Cys Asn Leu  
 225 230 235 240

Gln

<210> 36  
 <211> 377  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (346)

<400> 36  
 caacctcgtg gtcaccgcac cggggctgat caaggggtgac gcctgcttca catctctaata 60  
 gaacaccctc atgacgtcgc taccagcact agtgcagcaa caggggaaggc tgcttctggc 120  
 tgctaattgtg gccaccctgg ggctcctcat ggcccggctc cttagcacct ctccagctct 180  
 tcaggggaaca ccagcatccc gaggggttctt cgcagctgcc atcctcttcc tatcacagtc 240  
 ccacgtggcg cggggccaccc cgggctcaga ccaggcagtg ctagccctgt ccctgagta 300  
 tgagggcatc tggggccgacc tgcaggagct ctgggttcctg ggcatncaag ccttcaccgg 360  
 ctgtgtgcct ctgctgc 377

<210> 37  
 <211> 106  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> UNSURE  
 <222> (96)

<400> 37  
 Met Asn Thr Leu Met Thr Ser Leu Pro Ala Leu Val Gln Gln Gln Gly  
 1 5 10 15  
 Arg Leu Leu Leu Ala Ala Asn Val Ala Thr Leu Gly Leu Leu Met Ala  
 20 25 30  
 Arg Leu Leu Ser Thr Ser Pro Ala Leu Gln Gly Thr Pro Ala Ser Arg  
 35 40 45  
 Gly Phe Phe Ala Ala Ala Ile Leu Phe Leu Ser Gln Ser His Val Ala  
 50 55 60  
 Arg Ala Thr Pro Gly Ser Asp Gln Ala Val Leu Ala Leu Ser Pro Glu  
 65 70 75 80  
 Tyr Glu Gly Ile Trp Ala Asp Leu Gln Glu Leu Trp Phe Leu Gly Xaa  
 85 90 95  
 Gln Ala Phe Thr Gly Cys Val Pro Leu Leu  
 100 105

<210> 38  
 <211> 245

<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> (3)

<220>  
<221> unsure  
<222> (17)

<220>  
<221> unsure  
<222> (34)

<220>  
<221> unsure  
<222> (46)

<220>  
<221> unsure  
<222> (65)

<220>  
<221> unsure  
<222> (71)

<220>  
<221> unsure  
<222> (142)

<220>  
<221> unsure  
<222> (214)

<400> 38  
tangactcct ctctgengag acgcgactgg cggntccagc agggantacc ttttttataa 60  
accnnggggg nccacacaca cacacacaca cacacacaca cacacacaca cacacacaca 120  
cattttttgat cccttgcttc cntcccccag tgcgttctgt gatcgccaag ttcaaagctg 180  
tgcacatgtg gacactcaat aaatgttcat tggngacaaa aaaaaaaaaa aaaaaaaaaa 240  
aaaaa 245

<210> 39  
<211> 2384  
<212> DNA  
<213> Homo sapiens

<400> 39  
ccaaaacatg ctcaaaagta gaacattttg tttcaatatt aggaaagtgc tttgaatccc 60  
cttggacgac aaaagcgttg tctgagacag catgccaaga ctcagaggaa aacaagcaga 120  
gaataacagg tgcccagact ctaccaaagc atgtttctac cagcagtgat gaagggagcc 180  
ccagtgccag tacaccaatg atcaataaaa ctggctttta attttcagct gagaagcctg 240  
tgattgaagt tcccagcatg acaatcctgg ataaaaagga tggagagcag gccaaagccc 300  
tgtttgagaa agtgagggaag ttccgtgccc atgtggaaga tagtgacttg atctataaac 360  
tctatgtggt ccaaacagtt atcaaaacag ccaagttcat ttttattctc tgcataacag 420  
cgaactttgt caacgcaatc agctttgaac acgtctgcaa gcccaaagtt gagcatctga 480  
ttggttatga ggtatttgag tgcacccaca atatggctta catgttgaaa aagcttctca 540  
tcagttacat atccattatt tgtgtttatg gctttatctg cctctacact ctcttctggt 600  
tattcaggat acctttgaag gaatattctt tcgaaaaagt cagagaagag agcagtttta 660  
gtgacattcc agatgtcaaa aacgattttg cgttcccttc tcacatggta gaccagtatg 720

```

accagctata ttccaagcgt tttggtgtgt tcttgtcaga agttagttaa aataaactta 780
gggaaattag tttgaaccat gaggggacat ttgaaaaact caggcagcac atttcacgca 840
acgcccagga caagcaggag ttgcatctgt tcatgctgtc gggggtgccc gatgctgtct 900
ttgacctcac agacctggat gtgctaaagc ttgaactaat tccagaagct aaaattcctg 960
ctaagatttc tcaaattgact aacctccaag agctccacct ctgccactgc cctgcaaaaag 1020
ttgaacagac tgcttttagc tttcttcgcy atcacttgag atgccttcac gtgaagtcca 1080
ctgatgtggc tgaaattcct gcctgggtgt atttgcctca aaaccttcga gagttgtact 1140
taataggcaa tttgaactct gaaaacaata agatgatagg acttgaatct ctccgagagt 1200
tgccggcacct taagattctc cacgtgaaga gcaatttgac caaagttccc tccaacatta 1260
cagatgtggc tccacatctt acaaagttag tcattcataa tgacggcact aaactcttgg 1320
tactgaacag ccttaagaaa atgatgaatg tcgctgagct ggaactccag aactgtgagc 1380
tagagagaat cccacatgct attttcagcc tctctaattt acaggaactg gatttaaagt 1440
ccaataacat tcgcacaatt gaggaatcca tcagtttcca gcatttaaaa cgactgactt 1500
gtttaaaatt atggcataac aaaattgtta ctattcctcc ctctattacc catgtcaaaa 1560
acttggagtc actttatttc tctaacaaca agctcgaatc cttaccagtg gcagtattta 1620
gtttacagaa actcagatgc ttagatgtga gctacaacaa catttcaatg attccaatag 1680
aaataggatt gcttcagaac ctgcagcatt tgcatacac tgggaacaaa gtggacattc 1740
tgccaaaaaca attgtttaaa tgcataaagt tgaggacttt gaatctggga cagaactgca 1800
tcacctcact cccagagaaa gttggtcagc tctcccagct cactcagctg gagctgaagg 1860
ggaactgctt ggaccgcctg ccagcccagc tgggcccagtg tcggatgctc aagaaaagcg 1920
ggcttgttgt ggaagatcac ctttttgata ccctgccact cgaagtcaaa gaggcattga 1980
atcaagacat aaatatctcc tttgcaaatg ggattttamc taagataata tatgcacagt 2040
gatgtgcagg aacaacttcc tagattgcaa gtgctcagct acaagttatt acaagataat 2100
gcatttttagg agtagataca tcttttaaaa taaaacagag aggatgcata gaaggctgat 2160
agaagacata actgaatggt caatgtttgt aggggtttta gtcattcatt tccaaatcat 2220
tttttttttt cttttgggga aaggggaagga aaaattataa tctaataatc tggttctttt 2280
taaattgttt gtaacttgga tgctgccgct actgaatggt tacaaattgc ttgcctgcta 2340
aagtaaatga ttaaatgtac attttcttac tataaaaaaa aaaa 2384

```

<210> 40  
 <211> 614  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> UNSURE  
 <222> (607)

<400> 40  
 Met Ile Asn Lys Thr Gly Phe Lys Phe Ser Ala Glu Lys Pro Val Ile  
 1 5 10 15  
 Glu Val Pro Ser Met Thr Ile Leu Asp Lys Lys Asp Gly Glu Gln Ala  
 20 25 30  
 Lys Ala Leu Phe Glu Lys Val Arg Lys Phe Arg Ala His Val Glu Asp  
 35 40 45  
 Ser Asp Leu Ile Tyr Lys Leu Tyr Val Val Gln Thr Val Ile Lys Thr  
 50 55 60  
 Ala Lys Phe Ile Phe Ile Leu Cys Tyr Thr Ala Asn Phe Val Asn Ala  
 65 70 75 80  
 Ile Ser Phe Glu His Val Cys Lys Pro Lys Val Glu His Leu Ile Gly  
 85 90 95  
 Tyr Glu Val Phe Glu Cys Thr His Asn Met Ala Tyr Met Leu Lys Lys  
 100 105 110

Leu Leu Ile Ser Tyr Ile Ser Ile Ile Cys Val Tyr Gly Phe Ile Cys  
 115 120 125  
 Leu Tyr Thr Leu Phe Trp Leu Phe Arg Ile Pro Leu Lys Glu Tyr Ser  
 130 135 140  
 Phe Glu Lys Val Arg Glu Glu Ser Ser Phe Ser Asp Ile Pro Asp Val  
 145 150 155 160  
 Lys Asn Asp Phe Ala Phe Leu Leu His Met Val Asp Gln Tyr Asp Gln  
 165 170 175  
 Leu Tyr Ser Lys Arg Phe Gly Val Phe Leu Ser Glu Val Ser Glu Asn  
 180 185 190  
 Lys Leu Arg Glu Ile Ser Leu Asn His Glu Trp Thr Phe Glu Lys Leu  
 195 200 205  
 Arg Gln His Ile Ser Arg Asn Ala Gln Asp Lys Gln Glu Leu His Leu  
 210 215 220  
 Phe Met Leu Ser Gly Val Pro Asp Ala Val Phe Asp Leu Thr Asp Leu  
 225 230 235 240  
 Asp Val Leu Lys Leu Glu Leu Ile Pro Glu Ala Lys Ile Pro Ala Lys  
 245 250 255  
 Ile Ser Gln Met Thr Asn Leu Gln Glu Leu His Leu Cys His Cys Pro  
 260 265 270  
 Ala Lys Val Glu Gln Thr Ala Phe Ser Phe Leu Arg Asp His Leu Arg  
 275 280 285  
 Cys Leu His Val Lys Phe Thr Asp Val Ala Glu Ile Pro Ala Trp Val  
 290 295 300  
 Tyr Leu Leu Lys Asn Leu Arg Glu Leu Tyr Leu Ile Gly Asn Leu Asn  
 305 310 315 320  
 Ser Glu Asn Asn Lys Met Ile Gly Leu Glu Ser Leu Arg Glu Leu Arg  
 325 330 335  
 His Leu Lys Ile Leu His Val Lys Ser Asn Leu Thr Lys Val Pro Ser  
 340 345 350  
 Asn Ile Thr Asp Val Ala Pro His Leu Thr Lys Leu Val Ile His Asn  
 355 360 365  
 Asp Gly Thr Lys Leu Leu Val Leu Asn Ser Leu Lys Lys Met Met Asn  
 370 375 380  
 Val Ala Glu Leu Glu Leu Gln Asn Cys Glu Leu Glu Arg Ile Pro His  
 385 390 395 400  
 Ala Ile Phe Ser Leu Ser Asn Leu Gln Glu Leu Asp Leu Lys Ser Asn  
 405 410 415  
 Asn Ile Arg Thr Ile Glu Glu Ile Ile Ser Phe Gln His Leu Lys Arg  
 420 425 430

Leu Thr Cys Leu Lys Leu Trp His Asn Lys Ile Val Thr Ile Pro Pro  
 435 440 445  
 Ser Ile Thr His Val Lys Asn Leu Glu Ser Leu Tyr Phe Ser Asn Asn  
 450 455 460  
 Lys Leu Glu Ser Leu Pro Val Ala Val Phe Ser Leu Gln Lys Leu Arg  
 465 470 475 480  
 Cys Leu Asp Val Ser Tyr Asn Asn Ile Ser Met Ile Pro Ile Glu Ile  
 485 490 495  
 Gly Leu Leu Gln Asn Leu Gln His Leu His Ile Thr Gly Asn Lys Val  
 500 505 510  
 Asp Ile Leu Pro Lys Gln Leu Phe Lys Cys Ile Lys Leu Arg Thr Leu  
 515 520 525  
 Asn Leu Gly Gln Asn Cys Ile Thr Ser Leu Pro Glu Lys Val Gly Gln  
 530 535 540  
 Leu Ser Gln Leu Thr Gln Leu Glu Leu Lys Gly Asn Cys Leu Asp Arg  
 545 550 555 560  
 Leu Pro Ala Gln Leu Gly Gln Cys Arg Met Leu Lys Lys Ser Gly Leu  
 565 570 575  
 Val Val Glu Asp His Leu Phe Asp Thr Leu Pro Leu Glu Val Lys Glu  
 580 585 590  
 Ala Leu Asn Gln Asp Ile Asn Ile Pro Phe Ala Asn Gly Ile Xaa Thr  
 595 600 605  
 Lys Ile Ile Tyr Ala Gln  
 610

<210> 41  
 <211> 2386  
 <212> DNA  
 <213> Homo sapiens

<400> 41  
 ccaaaacatc aaaccctttt cttgtagcag cacaggattc tgagacagat tatgtcacia 60  
 cagataatct aacaaagggt actgaggaag tcgtggcaaa catgcctgaa ggcctgactc 120  
 cagatttagt acaggaagca tgtgaaagt aattgaatga agttactggt acaaagattg 180  
 cttatgaaac aaaaatggac ttggttcaaa catcagaagt tatgcaagag tcaactctatc 240  
 ctgcagcaca gctttgcccc tcatttgaag agtcagaagc tactccttca ccagttttgc 300  
 ctgacattgt tatggaagca ccattgaatt ctgcagttcc tagtgctggt gcttccgtga 360  
 tacagcccag ctcatcacca ttagaagctt cttcagttaa ttatgaaagc ataaaacatg 420  
 agcctgaaaa cccccacca tatgaagagg ccatgagtgt atcactaaaa aaagtatcag 480  
 gaataaagga agaaattaaa gagcctgaaa atattaatgc agctcttcaa gaaacagaag 540  
 ctcccttatat atctattgca tgtgatttaa ttaaagaaac aaagctttct gctgaaccag 600  
 ctccggattt ctctgattat tcagaaatgg caaaagttga acagccagtg cctgatcatt 660  
 ctgagctagt tgaagattcc tcacctgatt ctgaaccagt tgacttattt agtgatgatt 720  
 caatacctga cgttccacaa aaacaagatg aaactgtgat gcttgtgaaa gaaagtctca 780  
 ctgagacttc atttgagtca atgatagaat atgaaaataa ggaaaaactc agtgctttgc 840  
 cacctgaggy aggaagacca ttttggaat cttttaagct cagtttagat aacacaaaag 900  
 atacctgtt acctgatgaa gtttcaacat ttgacaaaaa ggagaaaatt cctttgcaga 960  
 tggaggagct cagtactgca gtttattcaa atgatgactt atttatttct aaggaagcac 1020

```

agataagaga aactgaaacg ttttcagatt catctccaat tgaaattata gatgagttcc 1080
ctacattgat cagttctaaa actgattcat tttctaaatt agccagggaa tatactgacc 1140
tagaagtatc ccacaaaagt gaaattgcta atgccccgga tggagctggg tcattgcctt 1200
gcacagaatt gccccatgac ctttctttga agaacatata acccaaagtt gaagagaaaa 1260
tcagttttctc agatgacttt tctaaaaatg ggtctgctac atcaaagggtg ctcttattgc 1320
ctccagatgt ttctgctttg gccactcaag cagagataga gagcatagtt aaacccaaag 1380
ttcttgtgaa agaagctgag aaaaaacttc cttccgatac agaaaaagag gacagatcac 1440
catctgctat attttcagca gagctgagta aaacttcagt tgttgacctc ctgtactgga 1500
gagacattaa gaagactgga gtggtgtttg gtgccagcct attcctgctg ctttcattga 1560
cagtattcag cattgtgagc gtaacagcct acattgcctt ggcctgctc tctgtgacca 1620
tcagcttttag gatatacaag ggtgtgatcc aagctatcca gaaatcagat gaaggccacc 1680
cattcagggg agttgctata tctgaggagt tggttcagaa gtacagtaat tctgctcttg 1740
gtcatgtgaa ctgcacgata aaggaaactca ggcgcctctt cttagttagat gatttagttg 1800
attctctgaa gtttgcagtg ttgatgtggg tatttaccta tgttggtgcc ttgtttaatg 1860
gtctgacact actgattttg gctctcattt cactcttcag tgttctgtt atttatgaac 1920
ggcatcaggc acagatagat cattatctag gacttgcaaa taagaatgtt aaagatgcta 1980
tggctaaaat ccaagcaaaa atccctggat tgaagcgcaa agctgaatga aaacgcccaa 2040
aataattagt aggagttcac ctttaaaggg gatattcatt tgattatacg ggggagggtc 2100
aggggaagaa gaaccttgac gttgcagtgc agtttcacag atcgttgta gatctttatt 2160
tttagccatg cactgttgtg aggaaaaatt acctgtcttg actgccatgt gttcatcatc 2220
ttaagtattg taagctgcta tgtatggatt taaaccgtaa tcatatcttt ttcctatctg 2280
aggcactggt ggaataaaaa acctgtatat ttactttgtg tgcagatagt cttgccgcat 2340
cttggaagat tgcagagatg gtggagctag aaaaaaaaaa aaaaaa 2386

```

&lt;210&gt; 42

&lt;211&gt; 642

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 42

```

Met Pro Glu Gly Leu Thr Pro Asp Leu Val Gln Glu Ala Cys Glu Ser
  1                      5                      10                      15

```

```

Glu Leu Asn Glu Val Thr Gly Thr Lys Ile Ala Tyr Glu Thr Lys Met
          20                      25                      30

```

```

Asp Leu Val Gln Thr Ser Glu Val Met Gln Glu Ser Leu Tyr Pro Ala
          35                      40                      45

```

```

Ala Gln Leu Cys Pro Ser Phe Glu Glu Ser Glu Ala Thr Pro Ser Pro
          50                      55                      60

```

```

Val Leu Pro Asp Ile Val Met Glu Ala Pro Leu Asn Ser Ala Val Pro
          65                      70                      75                      80

```

```

Ser Ala Gly Ala Ser Val Ile Gln Pro Ser Ser Ser Pro Leu Glu Ala
          85                      90                      95

```

```

Ser Ser Val Asn Tyr Glu Ser Ile Lys His Glu Pro Glu Asn Pro Pro
          100                     105                     110

```

```

Pro Tyr Glu Glu Ala Met Ser Val Ser Leu Lys Lys Val Ser Gly Ile
          115                     120                     125

```

```

Lys Glu Glu Ile Lys Glu Pro Glu Asn Ile Asn Ala Ala Leu Gln Glu
          130                     135                     140

```

```

Thr Glu Ala Pro Tyr Ile Ser Ile Ala Cys Asp Leu Ile Lys Glu Thr
          145                     150                     155                     160

```

Lys Leu Ser Ala Glu Pro Ala Pro Asp Phe Ser Asp Tyr Ser Glu Met  
 165 170 175  
 Ala Lys Val Glu Gln Pro Val Pro Asp His Ser Glu Leu Val Glu Asp  
 180 185 190  
 Ser Ser Pro Asp Ser Glu Pro Val Asp Leu Phe Ser Asp Asp Ser Ile  
 195 200 205  
 Pro Asp Val Pro Gln Lys Gln Asp Glu Thr Val Met Leu Val Lys Glu  
 210 215 220  
 Ser Leu Thr Glu Thr Ser Phe Glu Ser Met Ile Glu Tyr Glu Asn Lys  
 225 230 235 240  
 Glu Lys Leu Ser Ala Leu Pro Pro Glu Gly Gly Lys Pro Tyr Leu Glu  
 245 250 255  
 Ser Phe Lys Leu Ser Leu Asp Asn Thr Lys Asp Thr Leu Leu Pro Asp  
 260 265 270  
 Glu Val Ser Thr Leu Ser Lys Lys Glu Lys Ile Pro Leu Gln Met Glu  
 275 280 285  
 Glu Leu Ser Thr Ala Val Tyr Ser Asn Asp Asp Leu Phe Ile Ser Lys  
 290 295 300  
 Glu Ala Gln Ile Arg Glu Thr Glu Thr Phe Ser Asp Ser Ser Pro Ile  
 305 310 315 320  
 Glu Ile Ile Asp Glu Phe Pro Thr Leu Ile Ser Ser Lys Thr Asp Ser  
 325 330 335  
 Phe Ser Lys Leu Ala Arg Glu Tyr Thr Asp Leu Glu Val Ser His Lys  
 340 345 350  
 Ser Glu Ile Ala Asn Ala Pro Asp Gly Ala Gly Ser Leu Pro Cys Thr  
 355 360 365  
 Glu Leu Pro His Asp Leu Ser Leu Lys Asn Ile Gln Pro Lys Val Glu  
 370 375 380  
 Glu Lys Ile Ser Phe Ser Asp Asp Phe Ser Lys Asn Gly Ser Ala Thr  
 385 390 395 400  
 Ser Lys Val Leu Leu Leu Pro Pro Asp Val Ser Ala Leu Ala Thr Gln  
 405 410 415  
 Ala Glu Ile Glu Ser Ile Val Lys Pro Lys Val Leu Val Lys Glu Ala  
 420 425 430  
 Glu Lys Lys Leu Pro Ser Asp Thr Glu Lys Glu Asp Arg Ser Pro Ser  
 435 440 445  
 Ala Ile Phe Ser Ala Glu Leu Ser Lys Thr Ser Val Val Asp Leu Leu  
 450 455 460  
 Tyr Trp Arg Asp Ile Lys Lys Thr Gly Val Val Phe Gly Ala Ser Leu  
 465 470 475 480



Phe Leu Leu Leu Ser Leu Thr Val Phe Ser Ile Val Ser Val Thr Ala  
 485 490 495  
 Tyr Ile Ala Leu Ala Leu Leu Ser Val Thr Ile Ser Phe Arg Ile Tyr  
 500 505 510  
 Lys Gly Val Ile Gln Ala Ile Gln Lys Ser Asp Glu Gly His Pro Phe  
 515 520 525  
 Arg Glu Val Ala Ile Ser Glu Glu Leu Val Gln Lys Tyr Ser Asn Ser  
 530 535 540  
 Ala Leu Gly His Val Asn Cys Thr Ile Lys Glu Leu Arg Arg Leu Phe  
 545 550 555 560  
 Leu Val Asp Asp Leu Val Asp Ser Leu Lys Phe Ala Val Leu Met Trp  
 565 570 575  
 Val Phe Thr Tyr Val Gly Ala Leu Phe Asn Gly Leu Thr Leu Leu Ile  
 580 585 590  
 Leu Ala Leu Ile Ser Leu Phe Ser Val Pro Val Ile Tyr Glu Arg His  
 595 600 605  
 Gln Ala Gln Ile Asp His Tyr Leu Gly Leu Ala Asn Lys Asn Val Lys  
 610 615 620  
 Asp Ala Met Ala Lys Ile Gln Ala Lys Ile Pro Gly Leu Lys Arg Lys  
 625 630 635 640  
 Ala Glu

<210> 43  
 <211> 344  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (13)

<220>  
 <221> unsure  
 <222> (39)

<220>  
 <221> unsure  
 <222> (185)

<220>  
 <221> unsure  
 <222> (260)

<400> 43  
 ggcggctgcg gancggcgcg tccttgcgct ccccaacanc ggcgccggyg gcgcgggggc 60  
 gccgtcgggc acagtcccgg tgcctctctg tttctcagtc ttcgcgcgac cctcgtcggg 120  
 gccacacggg gcggggtaca agctgctcat ccagaagttc ctcagcctgt acggcgacca 180  
 gatcnacatg caccgcaaatt tcgtggtgca gctgttcgcc gaggagtggg gccagtacgt 240

ggacttgccc aagggcttcn cggtgagcga gcgctgcaag gtgcgcctcg tgccgctgca 300  
tatccagctc actaccctgg gaaatcttac acctcaagc actg 344

<210> 44  
<211> 631  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> (73)

<220>  
<221> unsure  
<222> (369)

<400> 44  
acatgattca gagtcctgtg ggtaaattca tatgcaataa tcttattcca atcaatctgt 60  
aaagtaaaag cantacatcc acattaacat tataacatct tacagtaata taaaagccaa 120  
atcattgttg gtacgtcatt ttctttaag tgaacaattt aagaaaactt cacaagagtc 180  
tgcacttttg aaagatacga tcagagtaca cagtagagac aaaacaggca tcttcattgt 240  
aatttttttt aataaataaa agcacattaa caaaaaagga aggtaagcag caccggaagc 300  
ctttgacgtt tgtaactaaa tgctgggtact caattgaatc gagctgggta agtttcaacta 360  
ggaggcgcn aaaaaggagcc gtttttgact taacatttta attctagtag agataagaag 420  
agcttggtg ggcttacagt ccttcacctg actgtccttc accagttagt agcataccag 480  
ttcttcaaat gtcctatact ttggaaagca gaccgcactc tggagcactc gccttaatta 540  
gattctgaat ttccttgaat tttggatggt ccttatcagc taccagctga agcagaacag 600  
cctcactcgt ggtcactatg atcccggttc g 631

<210> 45  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 45  
Met Val Leu Ile Ser Tyr Gln Leu Lys Gln Asn Ser Leu Thr Arg Gly  
1 5 10 15

His Tyr Asp Pro Gly Ser  
20

<210> 46  
<211> 70  
<212> DNA  
<213> Homo sapiens

<400> 46  
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
aaaaaaaaaa 70

<210> 47  
<211> 428  
<212> DNA  
<213> Homo sapiens

<400> 47  
agcacgcggt cctgcccgtg gacggggcaa cgctggcaga tgtgatgcgc cagcggggca 60  
tcaacatgcg ctacctgggc aaggtgctgg agctggtgct gcggarcccc gcccgccacc 120  
agctggacca cgtcttttaa atcggcattg gagaactcat caccgctcg sccaagcaca 180

tcttcaagac gtacttacag ggagtcgagc tctccggcct ctcagccgcc atcagccact 240  
 tcctgaactg cttcctgagc tcctacccaa acccctgggc ccacctgccc gccgacgagc 300  
 tgggtctccaa gaagcggaat aagaggagga aaaaccggcc cccgggggct gcagataaca 360  
 cagcctgggc tgtcatgacc cccagggagc tctggaagaa catctgccag gaggccaaga 420  
 actacttt 428

<210> 48

<211> 128

<212> PRT

<213> Homo sapiens

<220>

<221> UNSURE

<222> (21)

<220>

<221> UNSURE

<222> (43)

<400> 48

Met Arg Gln Arg Gly Ile Asn Met Arg Tyr Leu Gly Lys Val Leu Glu  
 1 5 10 15

Leu Val Leu Arg Xaa Pro Ala Arg His Gln Leu Asp His Val Phe Lys  
 20 25 30

Ile Gly Ile Gly Glu Leu Ile Thr Arg Ser Xaa Lys His Ile Phe Lys  
 35 40 45

Thr Tyr Leu Gln Gly Val Glu Leu Ser Gly Leu Ser Ala Ala Ile Ser  
 50 55 60

His Phe Leu Asn Cys Phe Leu Ser Ser Tyr Pro Asn Pro Val Ala His  
 65 70 75 80

Leu Pro Ala Asp Glu Leu Val Ser Lys Lys Arg Asn Lys Arg Arg Lys  
 85 90 95

Asn Arg Pro Pro Gly Ala Ala Asp Asn Thr Ala Trp Ala Val Met Thr  
 100 105 110

Pro Gln Glu Leu Trp Lys Asn Ile Cys Gln Glu Ala Lys Asn Tyr Phe  
 115 120 125

<210> 49

<211> 245

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> (46)

<220>

<221> unsure

<222> (138)

<220>

<221> unsure

&lt;222&gt; (147)

&lt;400&gt; 49

tgggtggggga ggatgtgccc accctgagac ccggaggaga cgggcntttg cctgggtttg 60  
 cggagagccg cttatgggtg tggtcggtcc agacaccttg tttcaagggg gatgggcgtg 120  
 agcgggcaag cagagcanc caccgntga gcaagaactt ttttttggtt ttaaaccatc 180  
 acgtcctcat ttcacattgg aataaagtga gtttttgaaa aaaaaaaaaa aaaaaaaaaa 240  
 aaaaaa 245

&lt;210&gt; 50

&lt;211&gt; 566

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 50

cagtgaagccc tttgaaaaat aaacatccag atgaagatgc tgtggaagct gaggggcatg 60  
 aggtaaaaag actcagggtt gacaaagaag gtgaagtcag agaaacagcc agtcaaacga 120  
 cttccagcga aatttcttca gttatggtag gagaaacaga agcatcatct tcatctcagg 180  
 ataaagacaa agatagccgt tgtwcccgcc agcactgtwc agaagaggat gaagaagagg 240  
 atgaagagga agaagaagag tcttttatga catcaagaga aatgatccca gaaagaaaaa 300  
 atcaagaaaa agaactctgat gatgccttaa ctgtgaatga agagacttct gaggaaaata 360  
 atcaaattgga ggaatctgat gtgtctcaag ctgagaaaga tttgctacat tctgaaggta 420  
 gtgaaaacga aggccctgta agtagtagtt cttctgactg ccgtgaaaca gaagaattag 480  
 taggatccaa ttccagtaaa actggagaga ttctttcaga atcatccatg gaaaatgatg 540  
 acgaagccac agaagtcacc gatgaa 566

&lt;210&gt; 51

&lt;211&gt; 141

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (21)

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (26)

&lt;400&gt; 51

Met Val Gly Glu Thr Glu Ala Ser Ser Ser Ser Gln Asp Lys Asp Lys  
 1 5 10 15

Asp Ser Arg Cys Xaa Arg Gln His Cys Xaa Glu Glu Asp Glu Glu Glu  
 20 25 30

Asp Glu Glu Glu Glu Glu Ser Phe Met Thr Ser Arg Glu Met Ile  
 35 40 45

Pro Glu Arg Lys Asn Gln Glu Lys Glu Ser Asp Asp Ala Leu Thr Val  
 50 55 60

Asn Glu Glu Thr Ser Glu Glu Asn Asn Gln Met Glu Glu Ser Asp Val  
 65 70 75 80

Ser Gln Ala Glu Lys Asp Leu Leu His Ser Glu Gly Ser Glu Asn Glu  
 85 90 95

Gly Pro Val Ser Ser Ser Ser Asp Cys Arg Glu Thr Glu Glu Leu  
 100 105 110

Val Gly Ser Asn Ser Ser Lys Thr Gly Glu Ile Leu Ser Glu Ser Ser  
 115 120 125

Met Glu Asn Asp Asp Glu Ala Thr Glu Val Thr Asp Glu  
 130 135 140

<210> 52

<211> 531

<212> DNA

<213> Homo sapiens

<400> 52

tcacatcatggc tataaatacc aaaacgattt ggatccattt atgtttgtag gataatatac 60  
 tactgactga cttgactgtc aggttcacaa cagctagatg atatatattat gactatgtct 120  
 aatagttaga ataaaatctg aatattgatt tactataccc aagaggggag aaaaattaac 180  
 cattgtaaat ttttaaaaat tttttcaaaa atgttaaaat gaggcaaatt taagtttaca 240  
 aattttgaaa ttttcttttg aatatttatg aaattgtcag taaacttacc taagatcctg 300  
 tgaccttttg atatttttta ttttaattgt agtgccatgg accatttgta aacaaattga 360  
 tttacttttg ttggttgtaa gttgaagatt tagcattatg actttgaggt ctgtgggttt 420  
 atttgtaaac ttgcaattgc tatatttgca agggcaaatt tatttcttta ttaaataaag 480  
 tacaataatg gtgaatgtac caaatgaca tcacttaaaa aaaaaaaaaa a 531

<210> 53

<211> 1163

<212> DNA

<213> Homo sapiens

<400> 53

kctggaacca cgcggargaa ggaagagacg caggcaggct gcggttacc aagcggscac 60  
 ccgggcctca gggacccttc cccgagagac ggcacatga cccagggaaa gctctccgtg 120  
 gctaacaagc ccctgggacc gaggggcagc agcakgtgca tggcgagaag aaggagctcc 180  
 agcagtgcc tcagccccac cctcctatga ggaaccacct ctggggaggg gatgaaggca 240  
 ggggccttc cccagcccc cacagcgggtg cctctccacc ctagctgggc ctatgtggac 300  
 cccagcagca gctccagcta tgacaacggt tccccaccg gagaccatga gctcttcacc 360  
 actttcagct gggatgacca gaaagtctgt cgagtctctg tcagaaagggt ctacaccatc 420  
 ctgctgattc agctgtggt gaccttggct gtcgtggctc tctttacttt ctgtgacctt 480  
 gtcaaggact atgtccagc caaccaggc tggtagtggg catcctatgc tgtgttcttt 540  
 gcaacctacc tgacctggc ttgctgttct ggaccaggga ggcatttccc ctggaacctg 600  
 attctcctga cgtctttac cctgtccatg gcctacctca ctgggatgct gtccagctac 660  
 tacaacacca cctcgtgct gctgtgcctg ggcatacagg ccttgtctg cctctcagtc 720  
 accgtcttca gcttcagac caagtctgac ttcacctcct gccagggcgt gctcttcgtg 780  
 cttctcatga ctcttttctt cagcggactc atcctggcca tcctcctacc cttccaatat 840  
 gtgccctggc tccatgcagt ttatgcagca ctgggagcgg gtgtatttac attgttcctg 900  
 gcacttgaca cccagttgct gatgggtaac cgacgccact cgctgagccc tgaggagtat 960  
 atttttggag ccctcaacat ttacctagac atcatctata tcttcacctt cttcctgcag 1020  
 ctttttgga ctaaccgaga atgaggagcc ctccctgccc caccgtctc cagagaatgc 1080  
 gccctcctg gttccctgtc cctcccctgc gctcctgcga gaccagatat aaaactagct 1140  
 gccaaaccaa aaaaaaaaaa aaa 1163

<210> 54

<211> 270

<212> PRT

<213> Homo sapiens

<400> 54

Met Lys Ala Gly Ala Phe Pro Pro Ala Pro Thr Ala Val Pro Leu His  
 1 5 10 15

Pro Ser Trp Ala Tyr Val Asp Pro Ser Ser Ser Ser Ser Tyr Asp Asn  
 20 25 30  
 Gly Phe Pro Thr Gly Asp His Glu Leu Phe Thr Thr Phe Ser Trp Asp  
 35 40 45  
 Asp Gln Lys Val Arg Arg Val Phe Val Arg Lys Val Tyr Thr Ile Leu  
 50 55 60  
 Leu Ile Gln Leu Leu Val Thr Leu Ala Val Val Ala Leu Phe Thr Phe  
 65 70 75 80  
 Cys Asp Pro Val Lys Asp Tyr Val Gln Ala Asn Pro Gly Trp Tyr Trp  
 85 90 95  
 Ala Ser Tyr Ala Val Phe Phe Ala Thr Tyr Leu Thr Leu Ala Cys Cys  
 100 105 110  
 Ser Gly Pro Arg Arg His Phe Pro Trp Asn Leu Ile Leu Leu Thr Val  
 115 120 125  
 Phe Thr Leu Ser Met Ala Tyr Leu Thr Gly Met Leu Ser Ser Tyr Tyr  
 130 135 140  
 Asn Thr Thr Ser Val Leu Leu Cys Leu Gly Ile Thr Ala Leu Val Cys  
 145 150 155 160  
 Leu Ser Val Thr Val Phe Ser Phe Gln Thr Lys Phe Asp Phe Thr Ser  
 165 170 175  
 Cys Gln Gly Val Leu Phe Val Leu Leu Met Thr Leu Phe Phe Ser Gly  
 180 185 190  
 Leu Ile Leu Ala Ile Leu Leu Pro Phe Gln Tyr Val Pro Trp Leu His  
 195 200 205  
 Ala Val Tyr Ala Ala Leu Gly Ala Gly Val Phe Thr Leu Phe Leu Ala  
 210 215 220  
 Leu Asp Thr Gln Leu Leu Met Gly Asn Arg Arg His Ser Leu Ser Pro  
 225 230 235 240  
 Glu Glu Tyr Ile Phe Gly Ala Leu Asn Ile Tyr Leu Asp Ile Ile Tyr  
 245 250 255  
 Ile Phe Thr Phe Phe Leu Gln Leu Phe Gly Thr Asn Arg Glu  
 260 265 270

<210> 55  
 <211> 624  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (123)

<400> 55  
 cgcacccct cccgccgccc ggcacacggg ggcgcctgggtg gacctgmgaaggccasgtc 60

cgggcgggcgg ggcggcggtt ggcactggct cgggactctg cccggccagg gggcgggmtc 120  
 canccgggag ggcgacgtgg agcggccack tggakcggcc cgggggargc tggcgggcgg 180  
 akgcgaggcg cgggcgggcg akcakccakg agcggccacg gagstggacc cccagakccg 240  
 cgcgggcgccg cagcagttcc aggaaggatg ttacctttga cgatgacagt gttaatcctg 300  
 ctgctgctcc ccacgggtca ggctgccccca aaggatggag tcacaaggcc agaattctgaa 360  
 gtgcagcatc agctcctgcc caacccttc cagccaggcc aggagcagct cggacttctg 420  
 cagagctacc taaagggact aggaaggaca gaagtgaac tggagcatct gagccgggag 480  
 cagggttctcc tctacctctt tgccctccat gactatgacc agagtggaca gctggatggc 540  
 ctggagctgc tgtccatgtt gacagctgct ctggcccctg gagctgcca ctctcctacc 600  
 accaaccggy tgatcttgat agtg 624

<210> 56

<211> 119

<212> PRT

<213> Homo sapiens

<400> 56

Met Leu Pro Leu Thr Met Thr Val Leu Ile Leu Leu Leu Leu Pro Thr  
 1 5 10 15

Gly Gln Ala Ala Pro Lys Asp Gly Val Thr Arg Pro Glu Ser Glu Val  
 20 25 30

Gln His Gln Leu Leu Pro Asn Pro Phe Gln Pro Gly Gln Glu Gln Leu  
 35 40 45

Gly Leu Leu Gln Ser Tyr Leu Lys Gly Leu Gly Arg Thr Glu Val Gln  
 50 55 60

Leu Glu His Leu Ser Arg Glu Gln Val Leu Leu Tyr Leu Phe Ala Leu  
 65 70 75 80

His Asp Tyr Asp Gln Ser Gly Gln Leu Asp Gly Leu Glu Leu Leu Ser  
 85 90 95

Met Leu Thr Ala Ala Leu Ala Pro Gly Ala Ala Asn Ser Pro Thr Thr  
 100 105 110

Asn Pro Val Ile Leu Ile Val  
 115

<210> 57

<211> 80

<212> DNA

<213> Homo sapiens

<400> 57

aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
 aaaaaaaaaa aaaaaaaaaa 80

<210> 58

<211> 2160

<212> DNA

<213> Homo sapiens

<400> 58

agacagggaa tactttattc aaaacccatc acagaaatgg acagcttggg tctgtaacaa 60  
 agcattcatg ttttagagca taggtcagta attgtatatg agagcatata ctgctacata 120  
 caaatlaact gatcagacca caacttttca atgtttaaaa cagaataagc ttccctgtaa 180

```

aagcagcacc tttgtgacgt ttttaacttta gtattctctct ccttcttctc caccctctcc 240
ttcaacagaa tccacaccaa cctcctcata atccttctct gcagcacatg aatcacaggt 300
attcctactg caagcgggag gcgaggagc ggggaagcggc ggagcgcgag gcgcgcgaga 360
aagggcactt ggaaccacc gagctgctga tgaaccgggc ttacttgacg agcattaccc 420
ctcaggggta ctctgactcg gaggagaggg agagtatgcc gagggatggc gagagcgaga 480
aggagcacga gaaagaaggc gaggatggct acgggaagct gggcagacag gatggcgacg 540
aggagttcga ggaggaagag gaagaaagtg aaaataaaaag tatggatacg gatcccgaaa 600
cgatacgaga tgaagaagag actggagatc actccatgga cgatagtctg gaggatggga 660
aaatggaaac caaatcagac cagcaggaag acaatatgga agatggcatg taataaacta 720
ctgcatttta agcttcctat ttttttttcc agtagtattg ttacctgctt gaaaacactg 780
ctgtgttaag ctgttcacgc acgtgcctga cgcttcagg aagctgtaga gagggacaga 840
agggcggtt cagccaagac agatgtagac ggagttggag ctgggtattg ttaaaaactg 900
cattatgcaa aaattttgta cagtgttaag gcctaaaaac tgtgtggttc agagactaat 960
tcctgtgttt aatagcattt atactttaag cacaactaga aaattgtaag aattgcactc 1020
tacttatgta tcactacaaa ctttaaaaaa ctatgtctaa tttatattaa tacattttta 1080
aaaggtgccc gcactaccat acatcagtat ttttattatt attattgtta ttctttttta 1140
atttaagtgt ctgcactac aatgcacag tattatgatt cctctgtact ttcttttcgc 1200
tattcatcaa tttcccattt tttttttcag ctttaagtaac cacacaattt taggcctcaa 1260
ttttttttt tctgtgaagg aacttgaagt gatgcagtgt tgaatttaag ataccgaagt 1320
cttaagtga cctggacgtg aaggaaaaag taagatgaga aataaagaaa gcctttgtaa 1380
ggtggtttta aaagccttat atgcaaacct ttaaatctgt gtttctgcaa gtgccatcct 1440
tgtacagtgt taagagggtta acatgggtta cctttgcacc agcttcagt ttaagctcac 1500
cctgttcttt gaagcaccga tgtcagtatt agaagaatag gcagcagttc cttagtttac 1560
atatgtttgt gcaattttt tctgtacttt tttgttcatt aattttgtca gtattacacc 1620
aaactgtttt tgcaacaaaa aaattttttt tgcattcatt taattttagg tcaaataaca 1680
ttttatttat gtggctcatt ttatatttcc taattttatt tatttcatac tgtagtgtac 1740
agtattatag ttcttcaata tatagatata ttttagtaaa aaaggaacat gacgttgatc 1800
atltgggcaa attttacgta aagagaagag catttattgt gttttggaac attaatgtg 1860
agatgggatt tttcaatttt attattttat ttttgttttt ttccaattac tggaaattcc 1920
aaatttgga acttttgata cgatcttgtg aaaacactgt attttcgact gaaaattcca 1980
ctttcttcat cttgtttttt agctaaaaag agggactgtt aaatacaatg tatgatacca 2040
tgacaaaaat ctttcttgaa ttgtctttgt aaaagtatta ttgaattttc aatttgtaat 2100
ttcttttgaa aatgaccatg ctgcaataaa aatgtagcca aactaaaaaa aaaaaaaaaa 2160

```

&lt;210&gt; 59

&lt;211&gt; 141

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 59

```

Met Asn His Arg Tyr Ser Tyr Cys Lys Arg Glu Ala Glu Glu Arg Glu
  1                      5                      10                      15

```

```

Ala Ala Glu Arg Glu Ala Arg Glu Lys Gly His Leu Glu Pro Thr Glu
      20                      25                      30

```

```

Leu Leu Met Asn Arg Ala Tyr Leu Gln Ser Ile Thr Pro Gln Gly Tyr
    35                      40                      45

```

```

Ser Asp Ser Glu Glu Arg Glu Ser Met Pro Arg Asp Gly Glu Ser Glu
    50                      55                      60

```

```

Lys Glu His Glu Lys Glu Gly Glu Asp Gly Tyr Gly Lys Leu Gly Arg
    65                      70                      75                      80

```

```

Gln Asp Gly Asp Glu Glu Phe Glu Glu Glu Glu Glu Ser Glu Asn
      85                      90                      95

```

```

Lys Ser Met Asp Thr Asp Pro Glu Thr Ile Arg Asp Glu Glu Thr
    100                      105                      110

```



Gly Asp His Ser Met Asp Asp Ser Ser Glu Asp Gly Lys Met Glu Thr  
 115 120 125

Lys Ser Asp His Glu Glu Asp Asn Met Glu Asp Gly Met  
 130 135 140

<210> 60  
 <211> 2168  
 <212> DNA  
 <213> Homo sapiens

<400> 60  
 gcagtacttg ggaggggggct tgctgtggcc ctgtcaggaa gagtagagct ctggtccagc 60  
 tccgcgcagg gagggaggct gtcaccatgc cggcctgctg cagctgcagt gatgttttcc 120  
 agtatgagac gaacaaagtc actcggatcc agagcatgaa ttatggcacc attaatgtgt 180  
 tcttccacgt gatcatcttt tcctacgttt gctttgctct ggtgagtgac aagctgtacc 240  
 agcggaaaga gcctgtcatc agttctgtgc acaccaaggc gaaggggata gcagaggtga 300  
 aagaggagat cgtggagaat ggagtgaaga agttggtgca cagtgtcttt gacaccgcag 360  
 actacacctt ccctttgcag gggaactctt tcttcgtgat gacaaacttt ctcaaacag 420  
 aaggccaaga gcagcgggtg tgtcccagat atcccacccg caggacgctc tgttcctctg 480  
 accgaggttg taaaaaggga tggatggacc cgcagagcaa aggaattcag accggaaggt 540  
 gtgtagtga tgaagggaac cagaagacct gtgaagtctc tgccctggtg cccatcgagg 600  
 cagtgaaga ggccccccgg cctgctctct tgaacagtgc cgaaaacttc actgtgtctc 660  
 tcaagaacaa tatcgacttc cccggccaca actacaccac gagaaacatc ctgccagggt 720  
 taaacatcac ttgtaccttc cacaagactc agaattccaca gtgtccatt ttccgactag 780  
 gagacatctt ccgagaaaca ggcgataatt ttccagatgt ggcaattcag ggcggaataa 840  
 tgggcattga gatctactgg gactgcaacc tagaccgttg gttccatcac tgccatccca 900  
 aatacagttt ccgtgcctt gacgacaaga ccaccaacgt gtccttgtag cctggctaca 960  
 acttcagata cgccaagtac tacaaggaaa acaatgttga gaaacggact ctgataaaag 1020  
 tcttcgggat ccgttttgac atcctgggtt ttggcaccgg agggaaaattt gacattatcc 1080  
 agctgggttg gtacatcggc tcaacctctt cctacttcgg tctggccgct gtgttcatcg 1140  
 acttcctcat cgacacttac tccagtaact gctgtcgtct ccatatttat ccctgggtga 1200  
 agtgcgtgca gccctgtgtg gtcaacgaat actactacag gaagaagtgc gagtccattg 1260  
 tggagccaaa gccgacatta aagtatgtgt cctttgtgga tgaatccac attaggatgg 1320  
 tgaaccagca gctactaggg agaagtctgc aagatgtcaa gggccaagaa gtcccaagac 1380  
 ctgcgatgga cttcacagat ttgtccaggc tgccccctgg cctccatgac acacccccga 1440  
 ttccctggaca accagaggag atacagctgc ttagaaagga 'ggcgactcct agatccaggg 1500  
 atagccccgt ctggtgccag tgtggaagct gcctcccatc tcaactccct gagagccaca 1560  
 ggtgcctgga ggagctgtgc tgccggaaaa agccgggggc ctgcatcacc acctcagagc 1620  
 tggtcaggaa gctggtcctg tccagacacg tcttcagatc cctcctgtct taccaggagc 1680  
 ccttgcctggc gctggatgtg gattccacca acagccggct gcggcactgt gcctacaggt 1740  
 gctacgccac ctggcgcttc ggctcccagg acatggctga ctttgccatc ctgcccagct 1800  
 gctgccgctg gaggatccgg aaagagtttc cgaagagtga agggcagtag agtggcttca 1860  
 agagtcctta ctgaagccag gcgcctgtgc tcacgtctgt aatcccagcg ctttgggagg 1920  
 ccgaggcagg cagatcacct gaggtcggga gttggagacc cgcctggcta acaaggcgaa 1980  
 atcctgtctg tactaaaaat acaaaaatca gccagacatg gtggcatgca cctgcaatcc 2040  
 cagctactcg ggaggctgag gcacaagaat cacttgaacc cgggaggcag aggtttagt 2100  
 gagcccagat tgtgccactg ctctccagcc tgggaggcac agcaaaactgt ccccaaaaaa 2160  
 aaaaaaaa 2168

<210> 61  
 <211> 595  
 <212> PRT  
 <213> Homo sapiens

<400> 61  
 Met Pro Ala Cys Cys Ser Cys Ser Asp Val Phe Gln Tyr Glu Thr Asn  
 1 5 10 15

Lys Val Thr Arg Ile Gln Ser Met Asn Tyr Gly Thr Ile Lys Trp Phe  
 20 25 30  
 Phe His Val Ile Ile Phe Ser Tyr Val Cys Phe Ala Leu Val Ser Asp  
 35 40 45  
 Lys Leu Tyr Gln Arg Lys Glu Pro Val Ile Ser Ser Val His Thr Lys  
 50 55 60  
 Val Lys Gly Ile Ala Glu Val Lys Glu Glu Ile Val Glu Asn Gly Val  
 65 70 75 80  
 Lys Lys Leu Val His Ser Val Phe Asp Thr Ala Asp Tyr Thr Phe Pro  
 85 90 95  
 Leu Gln Gly Asn Ser Phe Phe Val Met Thr Asn Phe Leu Lys Thr Glu  
 100 105 110  
 Gly Gln Glu Gln Arg Leu Cys Pro Glu Tyr Pro Thr Arg Arg Thr Leu  
 115 120 125  
 Cys Ser Ser Asp Arg Gly Cys Lys Lys Gly Trp Met Asp Pro Gln Ser  
 130 135 140  
 Lys Gly Ile Gln Thr Gly Arg Cys Val Val His Glu Gly Asn Gln Lys  
 145 150 155 160  
 Thr Cys Glu Val Ser Ala Trp Cys Pro Ile Glu Ala Val Glu Glu Ala  
 165 170 175  
 Pro Arg Pro Ala Leu Leu Asn Ser Ala Glu Asn Phe Thr Val Leu Ile  
 180 185 190  
 Lys Asn Asn Ile Asp Phe Pro Gly His Asn Tyr Thr Thr Arg Asn Ile  
 195 200 205  
 Leu Pro Gly Leu Asn Ile Thr Cys Thr Phe His Lys Thr Gln Asn Pro  
 210 215 220  
 Gln Cys Pro Ile Phe Arg Leu Gly Asp Ile Phe Arg Glu Thr Gly Asp  
 225 230 235 240  
 Asn Phe Ser Asp Val Ala Ile Gln Gly Gly Ile Met Gly Ile Glu Ile  
 245 250 255  
 Tyr Trp Asp Cys Asn Leu Asp Arg Trp Phe His His Cys His Pro Lys  
 260 265 270  
 Tyr Ser Phe Arg Arg Leu Asp Asp Lys Thr Thr Asn Val Ser Leu Tyr  
 275 280 285  
 Pro Gly Tyr Asn Phe Arg Tyr Ala Lys Tyr Tyr Lys Glu Asn Asn Val  
 290 295 300  
 Glu Lys Arg Thr Leu Ile Lys Val Phe Gly Ile Arg Phe Asp Ile Leu  
 305 310 315 320  
 Val Phe Gly Thr Gly Gly Lys Phe Asp Ile Ile Gln Leu Val Val Tyr  
 325 330 335

Ile Gly Ser Thr Leu Ser Tyr Phe Gly Leu Ala Ala Val Phe Ile Asp  
 340 345 350  
 Phe Leu Ile Asp Thr Tyr Ser Ser Asn Cys Cys Arg Ser His Ile Tyr  
 355 360 365  
 Pro Trp Cys Lys Cys Cys Gln Pro Cys Val Val Asn Glu Tyr Tyr Tyr  
 370 375 380  
 Arg Lys Lys Cys Glu Ser Ile Val Glu Pro Lys Pro Thr Leu Lys Tyr  
 385 390 395 400  
 Val Ser Phe Val Asp Glu Ser His Ile Arg Met Val Asn Gln Gln Leu  
 405 410 415  
 Leu Gly Arg Ser Leu Gln Asp Val Lys Gly Gln Glu Val Pro Arg Pro  
 420 425 430  
 Ala Met Asp Phe Thr Asp Leu Ser Arg Leu Pro Leu Ala Leu His Asp  
 435 440 445  
 Thr Pro Pro Ile Pro Gly Gln Pro Glu Glu Ile Gln Leu Leu Arg Lys  
 450 455 460  
 Glu Ala Thr Pro Arg Ser Arg Asp Ser Pro Val Trp Cys Gln Cys Gly  
 465 470 475 480  
 Ser Cys Leu Pro Ser Gln Leu Pro Glu Ser His Arg Cys Leu Glu Glu  
 485 490 495  
 Leu Cys Cys Arg Lys Lys Pro Gly Ala Cys Ile Thr Thr Ser Glu Leu  
 500 505 510  
 Phe Arg Lys Leu Val Leu Ser Arg His Val Leu Gln Phe Leu Leu Leu  
 515 520 525  
 Tyr Gln Glu Pro Leu Leu Ala Leu Asp Val Asp Ser Thr Asn Ser Arg  
 530 535 540  
 Leu Arg His Cys Ala Tyr Arg Cys Tyr Ala Thr Trp Arg Phe Gly Ser  
 545 550 555 560  
 Gln Asp Met Ala Asp Phe Ala Ile Leu Pro Ser Cys Cys Arg Trp Arg  
 565 570 575  
 Ile Arg Lys Glu Phe Pro Lys Ser Glu Gly Gln Tyr Ser Gly Phe Lys  
 580 585 590  
 Ser Pro Tyr  
 595

&lt;210&gt; 62

&lt;211&gt; 430

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 62

taaagatctg tgttcagagt cataactgaay agagacttct ggactctata gaaccactg 60

```

cctcctgatg aagtccttac tgttcaccct tgcagttttt atgctcctgg cccaattggt 120
ctcaggtaat tggatgtga aaaagtgtct aaacgacgtt ggaatttgca agaagaagtg 180
caaacctgaa gagatgcatg taaagaatgg ttgggcaatg tgcggcaaac aaagggactg 240
ctgtgttcca gctgacagac gtgctaatta tctgttttc tgtgtccaga caagactac 300
aagaatttca acagtaacag caacaacagc aacaacaact ttgatgatga ctactgcttc 360
gatgtcttcg atggctccta cccgtttctc ccactgggtg aacattccag cctctgtctc 420
ctgctctagg                                     430

```

&lt;210&gt; 63

&lt;211&gt; 121

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 63

```

Met Lys Ser Leu Leu Phe Thr Leu Ala Val Phe Met Leu Leu Ala Gln
  1              5              10              15

Leu Val Ser Gly Asn Trp Tyr Val Lys Lys Cys Leu Asn Asp Val Gly
              20              25              30

Ile Cys Lys Lys Lys Cys Lys Pro Glu Glu Met His Val Lys Asn Gly
              35              40              45

Trp Ala Met Cys Gly Lys Gln Arg Asp Cys Cys Val Pro Ala Asp Arg
              50              55              60

Arg Ala Asn Tyr Pro Val Phe Cys Val Gln Thr Lys Thr Thr Arg Ile
  65              70              75              80

Ser Thr Val Thr Ala Thr Thr Ala Thr Thr Thr Leu Met Met Thr Thr
              85              90              95

Ala Ser Met Ser Ser Met Ala Pro Thr Arg Phe Ser His Trp Leu Asn
              100              105              110

Ile Pro Ala Ser Val Ser Cys Ser Arg
              115              120

```

&lt;210&gt; 64

&lt;211&gt; 112

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (8)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (12)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (36)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (41)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (44)

&lt;400&gt; 64

```

tttctctgntt tnggatcccc gattcattaa agcaangggg ntnnaaaaaa aaaaaaaaaa 60
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa          112

```

&lt;210&gt; 65

&lt;211&gt; 324

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (69)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (74)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (125)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (159)

&lt;400&gt; 65

```

nctaccccaa cctgtgtggc tgggcccggg tctccctca agggcctggg gccgtgcctc 60
gggtgtacnc gtanggtct gtgtgctggg ggtggctcac cgggcagcgt gggtgagcgg 120
cgcanccggc gcagcggaga acgagagagg ggagcagana cagaatcgcc taagctgaag 180
tgtattggcg ccattcatggc tcaactgcggc ctccggctcc ttggctcggg tgattctcct 240
gcctgagcct ccctagtagc taggactaca gtgctgtaga agaaaatcac atgattgggtg 300
ccctcaaaaa attggtgcc aattg          324

```

&lt;210&gt; 66

&lt;211&gt; 794

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (61)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (82)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (108)..(120)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (184)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (754)

&lt;400&gt; 66

```

cattattttca tcaccagaga atacacatgc agcaaatagc attgtgagtc aaactatttcc 60
naaagcacag attcagcaat cnacacacac tcatctggat atctcacnnn nnnnnnnnnn 120
ttaactgatg aaaaaagtaa tggaacaatt gcccttgttg atgattctga ggatcctgga 180
gccnatgtat ctaacataca gcttcagcaa aaaatttcaa gtctggagat taaactcaaa 240
gtatctgaag aagaaaaaca gagaattaaa caggatgttg aakcattgat ggaaaagcat 300
aatgtcttag aaaaaggctt tctaaaagaa aaagagcaag aggccatttc ttttcaagat 360
agatacaaaag aacttcagga aaaacataaa caagaattgg aagacatgag gaaagctggt 420
cacgaagccc tcagcattat tgtggatgaa tataaggcac tactgcagtc ttcagttaag 480
caacaagtag aagctattga aaaacagtac atttctgcaa ttgagaaaca ggcacacaag 540
tgtgaggagt tgctaaatgc tcagcatcag aggctccttg aagtgctaga tacagagaag 600
gaactgttaa aagaaaaaat aaaggaagct ttgattcagc aatctcaaga acagaaggaa 660
atattggaaa agtgttttga ggaagaaagg caaagaaata aagaggcatt agtatccgct 720
gcaaagcttg aaaaagaacc agtgaaggat gcanttttaa aattcgtaga agaagaaaga 780
aaaaaaaaaa aaaa

```

&lt;210&gt; 67

&lt;211&gt; 164

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (156)

&lt;400&gt; 67

```

Met Glu Lys His Asn Val Leu Glu Lys Gly Phe Leu Lys Glu Lys Glu
  1                      5                      10                      15

Gln Glu Ala Ile Ser Phe Gln Asp Arg Tyr Lys Glu Leu Gln Glu Lys
      20                      25                      30

His Lys Gln Glu Leu Glu Asp Met Arg Lys Ala Gly His Glu Ala Leu
      35                      40                      45

Ser Ile Ile Val Asp Glu Tyr Lys Ala Leu Leu Gln Ser Ser Val Lys
      50                      55                      60

Gln Gln Val Glu Ala Ile Glu Lys Gln Tyr Ile Ser Ala Ile Glu Lys
      65                      70                      75                      80

Gln Ala His Lys Cys Glu Glu Leu Leu Asn Ala Gln His Gln Arg Leu
      85                      90                      95

Leu Glu Val Leu Asp Thr Glu Lys Glu Leu Leu Lys Glu Lys Ile Lys
      100                      105                      110

Glu Ala Leu Ile Gln Gln Ser Gln Glu Gln Lys Glu Ile Leu Glu Lys
      115                      120                      125

Cys Leu Glu Glu Glu Arg Gln Arg Asn Lys Glu Ala Leu Val Ser Ala
      130                      135                      140

Ala Lys Leu Glu Lys Glu Pro Val Lys Asp Ala Xaa Leu Lys Phe Val

```

145

150

155

160

Glu Glu Glu Arg

&lt;210&gt; 68

&lt;211&gt; 1494

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 68

```

cgtttgtcga cgccgctgcc accgcctgcc tgagagaagt cgtcgcggcc gaccccgctc 60
cctccgccgg ctaccatgtc cgcccaggcg cagatgcggg ccctgctgga ccagctcatg 120
ggcacggctc gggacggaga cgaaaccaga cagaggggtca agtttacaga tgaccgtgtc 180
tgcaagagtc accttctgga ctgctgcccc catgacatcc tggctgggac gcgcatggat 240
ttaggagaat gtacaaaaat ccacgacttg gccctccgag cagattatga gattgcaagt 300
aaagaaagag acctgttttt tgaattagat gcaatggatc acttgagtc ctttattgct 360
gaatgtgatc ggagaactga gctcgccaag aagcggctgg cagaaacaca ggaggaaatc 420
agtgcggaag tttctgcaaa ggcaggaaaa gtacatgagt taaatgaaga aataggaaaa 480
ctccttgcta aagccgaaca gctaggggct gaaggtaatg tggatgaatc ccagaagatt 540
cttatggaag tggaaaaagt tcgtgcgaag aaaaaagaag ctgaggaaga atacagaaat 600
tccatgcctg catccagttt tcagcagcaa aagctgcgtg tctgcgaggt ctgttcagcc 660
taccttggtc tccatgacaa tgaccgtcgc ctggcagacc acttcggtgg caagttacac 720
ttggggttca ttcagatccg agagaagctt gatcagttga ggaaaactgt cgctgaaaag 780
caggagaaga gaaatcagga tcgcttgagg aggagagagg agagggaaacg ggaggagcgt 840
ctgagcagga ggtcggggtc aagaaccaga gatcgagga ggtcacgctc ccgggatcgg 900
cgtcggaggc ggtcaagatc tacctcccgga gagcgacgga aattgtcccg gtcccggctc 960
cgagatagac atcggcgcca ccgcagccgt tcccgagacc acagccgggg acatcgtcgg 1020
gcttcccggg accgaagtgc gaaatacaag taactactct gactccttcg gtagctgcaa 1080
ccaggagttc tccagagagc gggcatccag agaggagtcc tgggagagcg ggcggagcga 1140
gcgagggccc ccggactgga ggcttgagag ctccaacggg aagatggctt cacggaggtc 1200
agaagagaag gaggccggcg agatctgaac ccgtctcccg ggtgctgtaa atagtctgat 1260
aaacgttcac acagtctaaa attacccttt atatttgctg aatacaactc atctttttgta 1320
gtttaaaatt tctattgttt tggagctagc tgtgagtttc tagaagtgtg cagagttgct 1380
cctgtgttcc cgggtcatgt tgagtaggaa taaataaatc tgatgctgcc tcctggaaaa 1440
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 1494

```

&lt;210&gt; 69

&lt;211&gt; 325

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 69

Met Ser Ala Gln Ala Gln Met Arg Ala Leu Leu Asp Gln Leu Met Gly

1

5

10

15

Thr Ala Arg Asp Gly Asp Glu Thr Arg Gln Arg Val Lys Phe Thr Asp

20

25

30

Asp Arg Val Cys Lys Ser His Leu Leu Asp Cys Cys Pro His Asp Ile

35

40

45

Leu Ala Gly Thr Arg Met Asp Leu Gly Glu Cys Thr Lys Ile His Asp

50

55

60

Leu Ala Leu Arg Ala Asp Tyr Glu Ile Ala Ser Lys Glu Arg Asp Leu

65

70

75

80

Phe Phe Glu Leu Asp Ala Met Asp His Leu Glu Ser Phe Ile Ala Glu

```
<210> 70
<211> 1761
<212> DNA
<213> Homo sapiens
```

<400> 70						
caaggggaagt	tctgaggggt	gagaggttgc	tcatttcgtca	gagcgtgctg	cccacccctcc	60
accctctgcat	ggcagaaact	gtgcagggga	cgaggccaag	gaatcaggag	accagagggc	120
aggggtggcc	cggagacggg	gaagaaacca	agacgcagag	aggccaagcc	ccttgcccttg	180
ggtcacacag	ccaaaggagg	cagagccaga	actcacaac	agatccagag	gcaacaggga	240
catggccacc	tgggacgaaa	aggcagtcac	ccgcagggcc	aaggtggctc	ccgttgagag	300
gatgagcaag	ttcttaaggc	acttcacggt	cgtgggaqac	gactaccatg	cctggaacat	360



```

caactacaag aaatgggaga atgaagagga ggaggaggag gaggagcagc caccacccac 420
accagtctca ggcgaggaag gcagagctgc agcccctgac gttgcccctg cccctggccc 480
cgcacccagg gcccccttg acttcagggg catgttgagg aaactgttca gctcccacag 540
gtttcaggtc atcatcatct gcttggtggt tctggatgcc ctcttggtgc ttgctgagct 600
catcctggac ctgaagatca tccagcccga caagaataac tatgtgtcca tggatttcca 660
ctacatgagc atcaccatct tggctctttt tatgatggag atcatcttta aattatttgt 720
cttccgcctg gagttctttc accacaagtt tgagatcctg gatgccgtcg tgggtggtgt 780
ctcattcatc ctgcacattg tcctcctggt ccaggagcac cagtttgagg ctctgggcct 840
gctgattctg ctccggtgtg ggcgggtggc ccggatcatc aatgggatta tcattctcagt 900
taagacacgt tcagaacggc aactcttaag gttaaaacag atgaatgtac aattggccgc 960
caagattcaa caccttgagt tcagctgctc tgagaaggaa caagaaattg aaagacttaa 1020
caaactattg cgacagcatg gacttcttgg tgaagtgaac tagaccggga ccagctcccc 1080
tcaaaaagaa gacactgtct catgggcctg tgctgtcacg agaggaacag ctgcccctcc 1140
tgggcccgtt ggtgagaggt ttggtttgat acctctgcct cctcctgcc agcatggatt 1200
ctgggtggac acagccttgt ggaaggtcca gtaccaccaa gagctgccc tccactccca 1260
ccccacactg tatcaaatgt atcacatttt ctcatgttga acacttttagc cttaattgaa 1320
aatgagcaac aaagctggac aattgctagt tgtatataaa atttaatctc accgaatgta 1380
cagttttcaa atttcacgtg tatattaagg aactgatgca tctgagcatt ctgaaagaaa 1440
gaaaaagaag ctacttttagc tgccacccca ttctagaaaa gtctcttatt ttcaagctgt 1500
tctaaatagc ttcgtctcag tttcccaaaa aggggtaccc agggccctcc tctgtgtgcc 1560
ccagctgcat cagccagctt ctagggtggt ccattgtttt ctgccacctg acaacatttt 1620
tcctcaatta ctgtacaact actgtataaa ataaaacaac tactgtataa aataaactct 1680
ctcttttccc tggaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1740
aaaaaaaaaa aaaaaaaaaa a 1761

```

<210> 71  
 <211> 273  
 <212> PRT  
 <213> Homo sapiens

<400> 71  
 Met Ala Thr Trp Asp Glu Lys Ala Val Thr Arg Arg Ala Lys Val Ala  
 1 5 10 15  
 Pro Ala Glu Arg Met Ser Lys Phe Leu Arg His Phe Thr Val Val Gly  
 20 25 30  
 Asp Asp Tyr His Ala Trp Asn Ile Asn Tyr Lys Lys Trp Glu Asn Glu  
 35 40 45  
 Glu Glu Glu Glu Glu Glu Glu Gln Pro Pro Pro Thr Pro Val Ser Gly  
 50 55 60  
 Glu Glu Gly Arg Ala Ala Ala Pro Asp Val Ala Pro Ala Pro Gly Pro  
 65 70 75 80  
 Ala Pro Arg Ala Pro Leu Asp Phe Arg Gly Met Leu Arg Lys Leu Phe  
 85 90 95  
 Ser Ser His Arg Phe Gln Val Ile Ile Ile Cys Leu Val Val Leu Asp  
 100 105 110  
 Ala Leu Leu Val Leu Ala Glu Leu Ile Leu Asp Leu Lys Ile Ile Gln  
 115 120 125  
 Pro Asp Lys Asn Asn Tyr Ala Ala Met Val Phe His Tyr Met Ser Ile  
 130 135 140  
 Thr Ile Leu Val Phe Phe Met Met Glu Ile Ile Phe Lys Leu Phe Val  
 145 150 155 160

Phe Arg Leu Glu Phe Phe His His Lys Phe Glu Ile Leu Asp Ala Val  
 165 170 175  
 Val Val Val Val Ser Phe Ile Leu Asp Ile Val Leu Leu Phe Gln Glu  
 180 185 190  
 His Gln Phe Glu Ala Leu Gly Leu Leu Ile Leu Leu Arg Leu Trp Arg  
 195 200 205  
 Val Ala Arg Ile Ile Asn Gly Ile Ile Ile Ser Val Lys Thr Arg Ser  
 210 215 220  
 Glu Arg Gln Leu Leu Arg Leu Lys Gln Met Asn Val Gln Leu Ala Ala  
 225 230 235 240  
 Lys Ile Gln His Leu Glu Phe Ser Cys Ser Glu Lys Glu Gln Glu Ile  
 245 250 255  
 Glu Arg Leu Asn Lys Leu Leu Arg Gln His Gly Leu Leu Gly Glu Val  
 260 265 270

Asn

<210> 72  
 <211> 928  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (367)

<220>  
 <221> unsure  
 <222> (448)

<220>  
 <221> unsure  
 <222> (467)

<220>  
 <221> unsure  
 <222> (508)

<220>  
 <221> unsure  
 <222> (539)

<400> 72  
 aatcgggagt cctggaaagt taattccaat gtcacgacgt caaacttaaa atggctcgtct 60  
 gccaccatga agattgataa ccctcacata acatatactg ccagggtccc agtcgatgtc 120  
 catgaataca acctaacgca tctgcagcct tccacagatt atgaagtgtg tctcacagt 180  
 tccaatatc atcagcagac tcaaaaagtca tgcgtaaatg tcacaaccaa aaatgccgcc 240  
 ttcgcagtgg acatctctga tcaagaaacc agtacagccc ttgctgcagt aatgggggtmt 300  
 atgtttgccg tcattagcct tgcgtccatt gctgtggtac tttgccaaaa gatttaagag 360  
 aaaaaantac caccactcat taaaaaagta tatgcaaaaa acctcttcaa tccactaaa 420  
 tgagctgtac ccaccactca ttaacctntg ggaaggtgac agcgagnaag acaaagatgg 480

ttttgcagac accaagccaa cccaggtnga cacatccaga aggtattaca tgtggtaant 540  
 cagaggatat tttgcttctg gtagtaagga gcacaaagac gtttttgctt tattctgcaa 600  
 aagtgaacaa gttgaagact tttgtatttt tgactttgct agtttgtggc agagtggaga 660  
 ggacgggtgg atatttcaaa tttttttagt atagcgtatc gcaaggggtt gacacggctg 720  
 ccagcgactc taggcttcca gtctgtgttt gggtttttatt cttatcatta ttatgattgt 780  
 tattatatta ttattttatt ttagttgttg tgctaaactc aataatgctg ttctaactac 840  
 agtgctcaat aaaatgatta atgacaggat ggggttcccc tgtgctttta ccagtagcat 900  
 gacccttcct gaagccatcc gtagaaag 928

<210> 73

<211> 52

<212> PRT

<213> Homo sapiens

<400> 73

Met Ile Val Ile Ile Leu Leu Phe Tyr Phe Ser Cys Cys Ala Lys Leu  
 1 5 10 15

Asn Asn Ala Val Leu Thr Thr Val Leu Asn Lys Met Ile Asn Asp Arg  
 20 25 30

Met Gly Phe Pro Cys Ala Phe Thr Ser Ser Met Thr Leu Pro Glu Ala  
 35 40 45

Ile Arg Arg Lys  
 50

<210> 74

<211> 49

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> (9)

<400> 74

aaattaaana aaaaaaaaaa aaaaaaaaaa aaataaagaa aaaaaaaaaa 49

<210> 75

<211> 597

<212> DNA

<213> Homo sapiens

<400> 75

attctacaag ataacttccc agtactttaaa aaaagtctca aagtcataaa caagaaagaa 60  
 ctgagggact attgcatatt ggagcgatct aaagaagtat tacaatttgt ggaattcttg 120  
 attaaatcct ggaccagcaa aaggacatta gtgggaaaat tgatgaaatt caaatgagat 180  
 cttatatattga agttaattgt gtcagtgtac atttcctggc ttccataatt gcaagtgtat 240  
 atgtaagggtt tgtaaatatt aggagcagct gggtaaagggt tatacaaaaa ctctatacta 300  
 tttttgcatt tttttctgta agttttaaacc attttccaac taaaaagttg aaaacacatg 360  
 tattagagac acatgcgtat gtgtctctaa taatcttaaa tatatttaag atgatagaag 420  
 gaattcttga gatagtaaaa tgaagtcacc aaaaaacaaa caaagaaaca aaacgaaatc 480  
 accaaaatct atcaataaat ttcaggtaat acttttggca gattcattcc ttgagatgg 540  
 agtctcactc ccagtctggg caacgagcga aactccgtct aaaaaaaaaa aaaaaa 597

<210> 76

<211> 89

<212> PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 76

Met Arg Ser Tyr Ile Glu Val Asn Cys Val Ser Val His Phe Leu Val  
 1 5 10 15

Phe Ile Ile Ala Ser Asp Tyr Val Arg Phe Val Asn Ile Arg Ser Ser  
 20 25 30

Trp Val Lys Val Ile Gln Lys Leu Tyr Thr Ile Phe Ala Phe Phe Ser  
 35 40 45

Val Ser Leu Lys His Phe Pro Thr Lys Lys Leu Lys Thr His Val Leu  
 50 55 60

Glu Thr His Ala Tyr Val Ser Leu Ile Ile Leu Asn Ile Phe Lys Met  
 65 70 75 80

Ile Glu Gly Ile Leu Glu Ile Val Lys  
 85

&lt;210&gt; 77

&lt;211&gt; 1804

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (1794)

&lt;400&gt; 77

ggagttcatt aggccagtg cactgatttt tccctcccat catagctatt tattctagta 60  
 agaggataat aaaagaaatt tcctatacaa gaactgaaat ttccatttg tatggatcta 120  
 gtcactttca gatttcaatt tgaggttaag tatataaagc acatcccaat tttatatgct 180  
 gccttgagaa aattacagga tgcacggcaa tttgtaggaa tttcaaatgg gatcatttaa 240  
 acatttgaaa aattatttta aaaaccatct agtttgcttt tggattttag acattaaagc 300  
 ctatgttgct ttgttaacag ggggtggaatg tataaccatc agattcagca tgtgatttca 360  
 cctttgaatc tgagtatttc tcccctatct tctttgagtc atttttgagg cagactgtca 420  
 ccagtattga taactaagca ttaaaggga aagtgcatt gcaactatgc attgggttcc 480  
 tggaagaact tttcttttgt tttagtgaat gaagaggctt gatgggatca cttactgtaa 540  
 ctctctctac ataaggaccc cttctgcaag cagaacacaa aagaacatgc tcaaggagta 600  
 tcccattttc tggataaatt gaagaagttt gctagtaatg tctttatact agcgtcttcc 660  
 ttgtatccct ttgctggcaa gggaatacaa ggcgtcaaga ccacagatca aaacacccca 720  
 catttgagtg gagtcttatt ttactccaa gagcagttat tcccttctag tctaaaattg 780  
 gcagtttttt ctttttttta ataaaatttt taaaatattc ccaaaccagt ggaacacaga 840  
 cactggctgc acttagtact gccaaaagcc aaggtcattt gcacatattc catcaacctg 900  
 tcgagaatta ggcctcactt tataacccaa ggcattggaag tgcattgcatt ctcttagctg 960  
 ggcaaacaat tatactgtag ttgtgataca acacatgttg cttttatttg tactgcacat 1020  
 atccactgta cagccacttg ggagtatcgt ggcttagctt cagcaactgc tgtctgcatt 1080  
 tatactgttt attgcatatt cttttccctg gaagtgaag agaaatgttt ttcttggtgc 1140  
 attgattaca ttttataaat ttgcttagct ggaagcttg ggaaaagagg cctgtttgct 1200  
 aattgtacaa ccgattgtga agctctagtg tgaatatttt tacgtctgta ttagacattt 1260  
 tctttgcaaa tctattgttc gattgaaatg taaatgaaat taaagatggg gtacacccat 1320  
 catgtaaaaa gcaggcacca tctctaagat ggatttaatg ctcatTTTTA aggcataatac 1380  
 tcagcttcta tttaaaacta taatttaaaa taattctgta caatgaaatg gggaatatat 1440  
 atgggaataa attctatttc atttatttca atttgaattt ccaaattgta atgtttccct 1500  
 ttgtgctata ggaataggat taaatggggg aagactagga tttataaggc ctgtatatgg 1560  
 ggggagggca gagatggaac aatgaggggt gtgatgatag tgaatagcaa agagtgaatt 1620  
 ctgtgtgttt ttgctgtagc actgaagtga agagatatta gctttggctg ttcacaaaat 1680

agagcatcat gattttcagt gtttgagaga aaattgatgg aaaaagtttg cagtacttga 1740  
 catgtatttg catgcacaaa ataaaattat ttgtccacct taaaaaaaaa aaanaaaaaa 1800  
 aaaa 1804

<210> 78  
 <211> 37  
 <212> PRT  
 <213> Homo sapiens

<400> 78  
 Met Lys Arg Leu Asp Gly Ile Thr Tyr Cys Asn Ser Phe Tyr Ile Arg  
     1                    5                    10                    15  
 Thr Pro Ser Ala Ser Arg Thr Gln Lys Asn Met Leu Lys Glu Tyr Pro  
                     20                    25                    30

Ile Phe Trp Ile Asn  
                     35

<210> 79  
 <211> 360  
 <212> DNA  
 <213> Homo sapiens

<400> 79  
 agaataccaa gactgtgtgt acacgcagat gtcagtggca gagaatgaag atcagcttcg 60  
 tgcaaagggt tatgacaaaa caccagactt cattttacaa gtaccagttg ctgtagaagg 120  
 gcacataatt cactggattg aaagcaaagc ctcatttggt gatgaatgta gccaccacgc 180  
 ctacctgcat gaccagttct ggagctactg gaatagggtc ccaatataac agacaaatgg 240  
 tgaaacagag ggatactcac taggaaacag atttggggcca ggcttagtca tctattggtg 300  
 tggatttatt caggagctgg actgcaaccg ggaaaggggc atcctgctca aagcctgttt 360

<210> 80  
 <211> 20  
 <212> PRT  
 <213> Homo sapiens

<400> 80  
 Met Asp Leu Ser Arg Ser Trp Thr Ala Thr Gly Lys Gly Ala Ser Cys  
     1                    5                    10                    15

Ser Lys Pro Val  
                     20

<210> 81  
 <211> 202  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (136)

<220>  
 <221> unsure  
 <222> (138)

<400> 81

```

aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 120
aaaaaaaaa aaaaantnaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 180
aaaaaaaaa aaaaaaaaaa aa 202

```

```

<210> 82
<211> 1189
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> unsure
<222> (1155)

```

```

<400> 82
ggccttcacg gcctaatacag atttttagtgg caagacaggt gatgataggg agaaagaaag 60
agtcctgcct gtcaaaagtg gctgtgctat ataratgaac cctcacaggt agcacctctc 120
agagagaata ratggtaaat gtttcttttc aggtctttaa aagtgtcagg ctatcagtta 180
acctctccta gatctcagaa atgcctagaa agagaagtcc tggctacatc aatggaaatt 240
ctccacagat gcaaattttc tctacaaaag atggccttgc agagccacct cagtctgttg 300
tccctgtagc agccatttca aattatgtca aagagatata ttttggggta aaatattttg 360
attatcttca ttagtatatc tcaattttgt caatacaaac ctgagagtta tagtcagagg 420
ttgaattttc atttcaaaat gttttcttag ttttttttct cttttttgtt ttattgtaag 480
ttgacaattt ataattgtat aaaagtatga ggtacaaagt gatgttatag cttaagaata 540
cagtatggta tgattaaatc aagttattaa cctatccttc acgttaaagt cttaaatttt 600
ttgatgagaa catttgaaat ttactcttgg aaggtaaaaa aaaatctcag gaccccccaa 660
attaaagcca tgaagctgaa ttgtgcaaca tcctcttcca aatggaagct tgtcttccag 720
gtacagaaca aaaacaagac tcatttcttc acctgcctaa agatgtgcac ataattggct 780
cctcctttac tccctttttc tcttctaaca ttcattatat cttgtgtaaa atgtagattt 840
actggacact aactaaaatt tcacagggtt gtacccattt gccttactgc ctacctacct 900
gtyttcctac gtaccttytc cccactttta ggaatgcata catattaaac ctccccaaaa 960
cytyttttaga aaaatagcca cagggtttatc tgtggctggg gtgtttccct agatgcacty 1020
taaagctggc ttaataaacc tcagtgattg aaacttatgc ctcaatcact cattttgggt 1080
gtcactgtct taccaatttg aaatgtaaaa tattytacta ctaattatat ttaccacatt 1140
gtgcaacaga actcnaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1189

```

```

<210> 83
<211> 56
<212> PRT
<213> Homo sapiens

```

```

<400> 83
Met Arg Thr Phe Glu Ile Tyr Ser Trp Lys Val Lys Lys Asn Leu Arg
  1             5             10            15

Thr Pro Gln Ile Lys Ala Met Lys Leu Asn Cys Ala Thr Ser Ser Ser
      20             25             30

Lys Trp Lys Leu Val Phe Gln Val Gln Asn Lys Asn Lys Thr His Phe
      35             40             45

Phe Thr Cys Leu Lys Met Cys Thr
      50             55

```

```

<210> 84
<211> 525
<212> DNA
<213> Homo sapiens

```

<400> 84  
cataacagcg tcagagagaa agaactgact gaaacgtttg agatgaagaa agttctcttc 60  
ctgatcacag ccattcttggc agtggctggt ggtttcccag tctctcaaga ccaggaacga 120  
gaaaaaagaa gtatcagtga cagcgatgaa ttagcttccag ggttttttgt gttcccttac 180  
ccatatccat ttgcccact tccaccaatt ccatttccaa gatttccatg gtttagacgt 240  
aattttccta ttccaatacc tgaatctgcc cctacaactc cccttcctag cgaaaagtaa 300  
acaagaagga aaagtcacga taaacctggt cacctgaaat tgaaattgag ccacttcctt 360  
gaagaatcaa aattcctggt aataaaagaa aaacaaatgt aattgaaata gcacacagca 420  
ttctctagtc aatatcttta gtgatyttyt ttaataaaca tgraagcaaa graaaaaaaa 480  
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 525

<210> 85  
<211> 85  
<212> PRT  
<213> Homo sapiens

<400> 85  
Met Lys Lys Val Leu Leu Ile Thr Ala Ile Leu Ala Val Ala Val  
1 5 10 15  
Gly Phe Pro Val Ser Gln Asp Gln Glu Arg Glu Lys Arg Ser Ile Ser  
20 25 30  
Asp Ser Asp Glu Leu Ala Ser Gly Phe Phe Val Phe Pro Tyr Pro Tyr  
35 40 45  
Pro Phe Arg Pro Leu Pro Pro Ile Pro Phe Pro Arg Phe Pro Trp Phe  
50 55 60  
Arg Arg Asn Phe Pro Ile Pro Ile Pro Glu Ser Ala Pro Thr Thr Pro  
65 70 75 80  
Leu Pro Ser Glu Lys  
85

<210> 86  
<211> 349  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> (9)

<220>  
<221> unsure  
<222> (159)

<220>  
<221> unsure  
<222> (188)

<220>  
<221> unsure  
<222> (230)

<220>  
<221> unsure  
<222> (232)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (270)

&lt;400&gt; 86

```

acttcgcanc ccatcccggc tggacgcgac cggggagtgac agcagcccgt tccccctctc 60
ggtgccgcct ctgcccagcg tttgcttggc tgggctacca cctgcgctcg gacggcgctc 120
ggagggtcct cgccccggc ctgcctacct gaaaaccana actgatggct ctatttgag 180
tctttcanac aacattcttc ttaacattgc tgccttgag gacttaccan antgaagtct 240
tggctgaacg tttaccattg actcctgtn tcacttaaag tttccaccaa ttctacgcgt 300
cagagtttgc acttacaatg gactgtccac aaccttcctt atcatcagg 349

```

&lt;210&gt; 87

&lt;211&gt; 563

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (63)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (83)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (116)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (177)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (183)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (228)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (240)

&lt;400&gt; 87

```

tccattccag caccagccaa cagcacaaaa ttaatccttg acaggtgttc ctaccaaatt 60
tgngtcatag ccaacaacag tgnnggtgct tctcctgctt ctgtaatagt catttntgca 120
gaccccgaaa acaaagaggt tgaggaagaa agaattgcag gcacagaggg tggattnttt 180
ttnttttggg aaccccaacc tggagatgtt ataggttatg ttgtggantg gtgtgaccan 240
accaggatg tgctcgggtg atttccagtg gaagaatgta ggtcccaata ccacaagcac 300
agtcatttag acagatgctt ttaggccagg agttcgatat gacttcagaa tttatggggt 360
atctacaaaa aggattgctt gtttattaga gaaaaaaaaac aggatactct caggaacttg 420
ctccttcaga caacctcac gtgctgggtg atacattgac atcccactcc ttcactctga 480
gttggaaga ttactctact gaatctcaac ctgggtttat acaagggtac catgtctatc 540
tgaaatccaa ggcgaggcag tgc 563

```

&lt;210&gt; 88

&lt;211&gt; 58



&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 88

Arg Lys Lys Thr Gly Tyr Ser Gln Glu Leu Ala Pro Ser Asp Asn Pro  
 1 5 10 15

His Val Leu Val Asp Thr Leu Thr Ser His Ser Phe Thr Leu Ser Trp  
 20 25 30

Lys Asp Tyr Ser Thr Glu Ser Gln Pro Gly Phe Ile Gln Gly Tyr His  
 35 40 45

Val Tyr Leu Lys Ser Lys Ala Arg Gln Cys  
 50 55

&lt;210&gt; 89

&lt;211&gt; 361

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (102)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (105)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (153)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (186)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (191)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (252)..(253)

&lt;400&gt; 89

gaaaaggcag ttctttcaga tggttcagaa tgttgcaaat acaaaattga caaccggaa 60  
 gaaaaggcat tgattgtgga caacctaaag ccagaatcct tntangagtt tttcatcact 120  
 ccatcacta gtgctggtga aggccccagt gcnacgttca cgaaggtcac gactccggat 180  
 gaacantcct ngatgctgat tcatatccta ctgcccattgg ttttctgcgt cttgctcatc 240  
 atggtcatgt gnnacttgaa aagtcagtgg atcaaggaga cctgttatcc tgacatccct 300  
 gacccttaca agagcagcat cctgtcatta ataaaattca aggtaaaaaa aaaaaaaaaa 360  
 a 361

&lt;210&gt; 90

&lt;211&gt; 756

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

<220>  
 <221> unsure  
 <222> (37)

<220>  
 <221> unsure  
 <222> (54)

<220>  
 <221> unsure  
 <222> (376)

<220>  
 <221> unsure  
 <222> (433)

<400> 90  
 attgaattct agacctgagg ccgctgctcc ctcagangcc cctgatgtct gganaattgt 60  
 gagcttggag ccaggaaatc atactgtgac cttattctgg aagccattat caaaactgca 120  
 tgccaatgga aagatccctgt tctataatgt agttgtagaa aacctagaca aaccatccag 180  
 ttcagagctc cattccattc cagcaccagc caacagcaca aaactaatcc ttgacaggtg 240  
 ttccctaccaa atctgcgtca tagccaacaa cagtgtgggt gcttctcctg cttctgtaat 300  
 agtcatytct gcagaccccg aaaacaaaga ggttgaggaa gaaagaattg caggcacaga 360  
 ggggtgattt ttttntttt ggaaacccca acctggagat gttatagggt atgttggtgga 420  
 ctggtgtgac canaccagg atgtgcctcg gtgatttcca gtggaagaat gtaggtccca 480  
 ataccacaag cacagtcatt agcacagatg cttttaggcc aggagtcca tatgacttca 540  
 gaatttatgg gttatctaca aaaaggattg cttgtttatt agagaaaaaa aacaggatac 600  
 tctcaggaac ttgtcccttc agacaacct cactgctggg tggtacatt gacatccac 660  
 tccttcactc tgagttggaa agattactct actgaatctc aacctgggtt tatacaaggg 720  
 taccatgtct atctgaaatc caaggcgagg cagtgc 756

<210> 91  
 <211> 58  
 <212> PRT  
 <213> Homo sapiens

<400> 91  
 Arg Lys Lys Thr Gly Tyr Ser Gln Glu Leu Ala Pro Ser Asp Asn Pro  
 1 5 10 15  
 His Val Leu Val Asp Thr Leu Thr Ser His Ser Phe Thr Leu Ser Trp  
 20 25 30  
 Lys Asp Tyr Ser Thr Glu Ser Gln Pro Gly Phe Ile Gln Gly Tyr His  
 35 40 45  
 Val Tyr Leu Lys Ser Lys Ala Arg Gln Cys  
 50 55

<210> 92  
 <211> 79  
 <212> DNA  
 <213> Homo sapiens

<400> 92  
 tcattaataa aattcaaggt aaatgttaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
 aaaaaaaaaa aaaaaaaaaa 79

<210> 93

<211> 1939  
 <212> DNA  
 <213> Homo sapiens

<400> 93  
 attggttttc aaatattaaa ccagcatttt attttaaaat aaacccact tagttatgat 60  
 attttatctt ttttatataa tgtgggattt gatttgccga tttttatta aagatttttg 120  
 catcatgttc tttttctgaa attttatattt gttctaattt cataaaataa gttggaaatt 180  
 atcctctcta tctctacttt gtgaaagaat ttatattaca ttggtattat ttcttccttg 240  
 aatgtttgat agactatact agtgaaagca tctgggccta gggttttctc tgtggaagat 300  
 tttcagttac aaattcaatt ttactgagtc aggtttgata agttacattt ctcaaggaat 360  
 ttatctattt aatcattgaa tgtattgaac attcatttgt ttataatttt gttttgttat 420  
 tgaaaatgtc tgtaagattt atagtgatgt tcccttttct attcctgaca ttgttaattt 480  
 gtgttctctc tccctccatc cctctctcac tctctcttgc cagctggtct gtgggattat 540  
 cacctttatt aatcttttca gagaaccact ttttatttct ttgatttctt ttattgtttg 600  
 ttaacttttt agtttattga ttccctctct tagctttatt acttcttccc ttctacttag 660  
 taagagttaa atttgccttc attttttttag ctctttaagg taggaaattt gattatattt 720  
 taaacttaaa aaaacttaaa gctataaaat tccctttaag cactgtttta gctgaattct 780  
 acatattttg attgggtatg ttttcatcat tcaattaaaa acatagtttc taatttttcc 840  
 ttgcaatttc ttctttaacc cataggttat ttggcagttt gctgctgaat ttcaaagtgc 900  
 ttgggagggt ttatagctat cttgttaaaa attgatttct aatttaattt tgtcagagaa 960  
 catactttgt atgacttaaa tcttttaaaa tacgttcaga ctgatttagg gtccagcata 1020  
 tgggtacgtc tagtgaatgt aatataatgcc attggaaatg atgcacattc tgcaattgtt 1080  
 ggttgtaatg tgctataaat gtcaaccagg ttaacttggg tgatagtatt gttgaattcc 1140  
 tgtgttccaa atgatatttt ttgtctgttt attctatcaa ttaatgagaa aggtttatta 1200  
 aaatctccaa ccattgttgt gcatttattt ctatttcttt agttctgttg atttttgttt 1260  
 tatatatttt gaagctctga gtacatctcc ctgatgagtt gacctttta tcattatgaa 1320  
 atgtcattct ttctctgtaa tgcttatctt aaaatctact ttgtttgata tgaatgtagc 1380  
 cacttaagct ttcttatgca tactgtttgc aaagtgtgtg tgtgtgtgtg tgtgtgtgtg 1440  
 tgtatctatc tcaatccttt agtttccgcc tatctctgtc tttttattta aagtgtgttt 1500  
 ttgcaggtag tgtataactt ggatcttggt tttatatcca gtctgacaat ttatgcttct 1560  
 tgattattgt gtttagttta ttgcatagt gtgtagtcca ttgacatttg gcataattat 1620  
 gataatttgt gttggagcgt attgtcttca tttctgattg tcccatctgg ttttgttgc 1680  
 gttttgttgt tctctgttcc cacacttttt gtcttctttt ggggttaatca aatattcttt 1740  
 ggctttgcat cttatgtctt ctgttggttt tttatctata ccttgtcgtg tttttcttta 1800  
 gtgggttctc taggggttac actatacatt attaattaat catagtccat ttagaattaa 1860  
 tattgtacac ttacataaaa atgtaaaaca tttgtcacag tataaagtct attccttcca 1920  
 aaaaaaaaaa aaaaaaaaaa 1939

<210> 94  
 <211> 52  
 <212> PRT  
 <213> Homo sapiens

<400> 94  
 Met Ser Val Arg Phe Ile Val Met Phe Pro Phe Leu Phe Leu Thr Leu  
 1 5 10 15  
 Leu Ile Cys Val Leu Ser Pro Ser Ile Pro Leu Ser Leu Ser Leu Val  
 20 25 30  
 Ser Trp Ser Val Gly Leu Ser Pro Leu Leu Ile Phe Ser Glu Asn His  
 35 40 45  
 Phe Leu Phe Leu  
 50

<210> 95  
 <211> 1252

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 95

```

gtagaaatcc caaaaagatt tggacagagg cagagcctat gtcactacac cttaaaggat 60
aacaagggttt'atatcaagac tcatggtgaa catgtaggtt ttagaatttt catggatgcc 120
atactacttt ctttgactag aaaggtgaag atgccagatg tggagctctt tgtaaatttg 180
ggagactggc ctttggaaaa aaagaaatcc aattcaaaca tccatccgat cttttcctgg 240
tgtggctcca cagattccaa ggatatactg atgcctacgt acgatttgac tgattctgtt 300
ctggaaacca tgggccgggt aagtctggat atgatgtccg tgcaagctaa cacgggtcct 360
ccctgggaaa gcaaaaattc cactgccgtc tggagagggc gagacagccg caaagagaga 420
ctcgagctgg ttaaactcag tagaaaacac ccagaactca tagacgctgb tttcaccaac 480
tttttcttct ttaaaccaga tgaaaacctg tatggtccca ttgtgaaaca tatttcattt 540
tttgatttct tcaagcataa gtatcaaata aatatcgatg gcactgtagc agcttatcgc 600
ctgccatatt tgctagtggg tgacagtgtt gtgctgaagc aggattccat ctactatgaa 660
cattttttaca atgagctgca gccctggaaa cactacattc cagttaagag caacctgagc 720
gatctgctag aaaaacttaa atgggcgaaa gatcacgatg aagaggccaa aaagatagca 780
aaagcaggac aagaatttgc aagaaataat ctcatgggag atgacatatt ctgttattat 840
ttcaaaacttt tccaggaata tgccaattta caagtgaagt agccccaaat ccgagagggc 900
atgaaaaggg tagaaccaca gactgaggac gacctcttcc cttgtacttg ccataggaaa 960
aagaccaaag atgaactctg atatgcaaaa taacttctat tagaataatg gtgctctgaa 1020
gactcttctt aactaaaaag aagaattttt ttaagtatta attccatgga caatataaaa 1080
tctgtgtgat tgtttgcagt atgaagacac atttctactt atgcagtatt ctcagtactg 1140
tactttaaag tacattttta gaattttata ataaaaccac ctttatttta aaggaaaaaa 1200
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1252

```

&lt;210&gt; 96

&lt;211&gt; 289

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 96

```

Met Asp Ala Ile Leu Leu Ser Leu Thr Arg Lys Val Lys Met Pro Asp
  1              5              10              15

Val Glu Leu Phe Val Asn Leu Gly Asp Trp Pro Leu Glu Lys Lys Lys
      20              25              30

Ser Asn Ser Asn Ile His Pro Ile Phe Ser Trp Cys Gly Ser Thr Asp
      35              40              45

Ser Lys Asp Ile Val Met Pro Thr Tyr Asp Leu Thr Asp Ser Val Leu
      50              55              60

Glu Thr Met Gly Arg Val Ser Leu Asp Met Met Ser Val Gln Ala Asn
      65              70              75              80

Thr Gly Pro Pro Trp Glu Ser Lys Asn Ser Thr Ala Val Trp Arg Gly
      85              90              95

Arg Asp Ser Arg Lys Glu Arg Leu Glu Leu Val Lys Leu Ser Arg Lys
      100             105             110

His Pro Glu Leu Ile Asp Ala Ala Phe Thr Asn Phe Phe Phe Phe Lys
      115             120             125

His Asp Glu Asn Leu Tyr Gly Pro Ile Val Lys His Ile Ser Phe Phe
      130             135             140

Asp Phe Phe Lys His Lys Tyr Gln Ile Asn Ile Asp Gly Thr Val Ala

```

145                      150                      155                      160  
 Ala Tyr Arg Leu Pro Tyr Leu Leu Val Gly Asp Ser Val Val Leu Lys  
                                  165                                   170                                   175  
 Gln Asp Ser Ile Tyr Tyr Glu His Phe Tyr Asn Glu Leu Gln Pro Trp  
                                  180                                   185                                   190  
 Lys His Tyr Ile Pro Val Lys Ser Asn Leu Ser Asp Leu Leu Glu Lys  
                                  195                                   200                                   205  
 Leu Lys Trp Ala Lys Asp His Asp Glu Glu Ala Lys Lys Ile Ala Lys  
                                  210                                   215                                   220  
 Ala Gly Gln Glu Phe Ala Arg Asn Asn Leu Met Gly Asp Asp Ile Phe  
 225                                   230                                   235                                   240  
 Cys Tyr Tyr Phe Lys Leu Phe Gln Glu Tyr Ala Asn Leu Gln Val Ser  
                                  245                                   250                                   255  
 Glu Pro Gln Ile Arg Glu Gly Met Lys Arg Val Glu Pro Gln Thr Glu  
                                  260                                   265                                   270  
 Asp Asp Leu Phe Pro Cys Thr Cys His Arg Lys Lys Thr Lys Asp Glu  
                                  275                                   280                                   285

Leu

<210> 97  
 <211> 492  
 <212> DNA  
 <213> Homo sapiens

<400> 97  
 ctagggttctg ggaagatggc gaaggctctca gagcttttacg atgtcacttg ggaagaaatg 60  
 agagataaaa tgagaaaatg gagagaagaa aactcaagaa atagttagca aattgtggaa 120  
 gttggagaag aattaattaa tgaatatgct tctaagctgg gagatgatat ttggatcata 180  
 tatgaacagg tgatgattgc agcactagac tatggctggg atgacttggc attgttttgt 240  
 cttcaagagc tgagaagaca gttccctggc agtcacagag tcaagcgatt aacaggcatg 300  
 agatttgaag ccatggaaag atatgatgat gctatacagc tatatgatag gatttttaca 360  
 gaagatccaa ctaacactgc tgcaagaaag cgtaagattg ccatttcgaaa agcccagggg 420  
 aaaaatgtgg aggccattcg ggagctgaat gaggatcttg aacaatttgt tggagaccaa 480  
 gaagcctggc at 492

<210> 98  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

<400> 98  
 Met Ala Lys Val Ser Glu Leu Tyr Asp Val Thr Trp Glu Glu Met Arg  
   1                                  5                                  10                                  15  
 Asp Lys Met Arg Lys Trp Arg Glu Glu Asn Ser Arg Asn Ser Glu Gln  
                                   20                                  25                                  30  
 Ile Val Glu Val Gly Glu Glu Leu Ile Asn Glu Tyr Ala Ser Lys Leu  
                                   35                                  40                                  45

Gly Asp Asp Ile Trp Ile Ile Tyr Glu Gln Val Met Ile Ala Ala Leu  
 50 55 60  
 Asp Tyr Gly Arg Asp Asp Leu Ala Leu Phe Cys Leu Gln Glu Leu Arg  
 65 70 75 80  
 Arg Gln Phe Pro Gly Ser His Arg Val Lys Arg Leu Thr Gly Met Arg  
 85 90 95  
 Phe Glu Ala Met Glu Arg Tyr Asp Asp Ala Ile Gln Leu Tyr Asp Arg  
 100 105 110  
 Ile Leu Gln Glu Asp Pro Thr Asn Thr Ala Ala Arg Lys Arg Lys Ile  
 115 120 125  
 Ala Ile Arg Lys Ala Gln Gly Lys Asn Val Glu Ala Ile Arg Glu Leu  
 130 135 140  
 Asn Glu Tyr Leu Glu Gln Phe Val Gly Asp Gln Glu Ala Trp His  
 145 150 155

<210> 99  
 <211> 85  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (20)

<220>  
 <221> unsure  
 <222> (27)

<400> 99  
 ccttggttaaa taaaccatgn tgatttntta aacttgccaa aaaaaaaaaa aaaaaaaaaa 60  
 aaaaaaaaaa aaaaaaaaaa aaaaaa 85

<210> 100  
 <211> 313  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (68)

<220>  
 <221> unsure  
 <222> (108)

<220>  
 <221> unsure  
 <222> (137)

<220>  
 <221> unsure  
 <222> (288)

<400> 100  
 ccttggatta tctgaactaa aaattggaca gattgatcag ctggtaaaaa atctacttcc 60  
 tggatttngt aaaggcaaaa acatttcttc ccattggcat acatcccntg tctctgcaca 120  
 atccttcttt gaaaatnaat atggtaactt aaatatattt agtacattac gttcctcttg 180  
 cttgtatcga catcattcaa aagctcttca aagcatttgt tcaaattctt agtactggcc 240  
 agttttcata cagtctcggg gttttaaaac tttgaaatca aggacacnac gtctccagtc 300  
 tacctccgag aga 313

<210> 101  
 <211> 964  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (395)

<400> 101  
 gcttttccgg agcagagttg gagaatcttg tgaaccaggc tgcattaaaa gcagctgttg 60  
 atggaaaaga aatgggttacc atgaaggagc tggagttttc caaagacaaa attctaattg 120  
 ggcctgaaag aagaagtgtg gaaattgata acaaaaacaa aaccatcaca gcatatcatg 180  
 aatctgggtca tgccattatt gcatattaca caaaagatgc aatgcctatc aacaaagcta 240  
 caatcatgcc acggggggcca acacttggac atgtgtccct gttacctgag aatgacagat 300  
 ggaatgaaac tagagcccag ctgcttgcac aaatggatgt tagtatggga ggaagagtgg 360  
 cagaggagct tatatttggg accgaccata ttacnacagg tgcttccagt gattttgata 420  
 atgccactaa aatagcaaag cggatrgyta ccaaatttgg aatgagtga aagcttggag 480  
 ttatgaccta cagtataca ggggaaacta agtccagaaa cccaatctgc catcgaacaa 540  
 gaaataagaa tccttctaag ggactcatat gaacgagcaa aacatatctt gaaaactcat 600  
 gcaaaggagc ataagaatct cgcagaagct ttattgacct atgagacttt ggatgccaaa 660  
 gagattcaaa ttgttctkga ggggaaaaag ttggaagtga gatgataact ctctkgatat 720  
 ggatgcttgc tggttttatt gcaagaatat aagtagcatt gcagtagtct acttttacia 780  
 cgctttcccc tcattcttga tgtggtgtaa ttgaagggtg tgaatgctt tgtcaatcat 840  
 ttgtcacatt tatccagttt gggttattct cattaggaca cctattgcaa attagcatcc 900  
 catggcaaat atattttgaa aaaataaaga actatcagga ttgaaaaaaa aaaaaaaaaa 960  
 aaaa 964

<210> 102  
 <211> 166  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> UNSURE  
 <222> (125)..(126)

<400> 102  
 Met Val Thr Met Lys Glu Leu Glu Phe Ser Lys Asp Lys Ile Leu Met  
 1 5 10 15  
 Gly Pro Glu Arg Arg Ser Val Glu Ile Asp Asn Lys Asn Lys Thr Ile  
 20 25 30  
 Thr Ala Tyr His Glu Ser Gly His Ala Ile Ile Ala Tyr Tyr Thr Lys  
 35 40 45  
 Asp Ala Met Pro Ile Asn Lys Ala Thr Ile Met Pro Arg Gly Pro Thr  
 50 55 60  
 Leu Gly His Val Ser Leu Leu Pro Glu Asn Asp Arg Trp Asn Glu Thr

65	70	75	80
Arg Ala Gln Leu Leu Ala Gln Met Asp Val Ser Met Gly Gly Arg Val			
85	90	95	
Ala Glu Glu Leu Ile Phe Gly Thr Asp His Ile Thr Thr Gly Ala Ser			
100	105	110	
Ser Asp Phe Asp Asn Ala Thr Lys Ile Ala Lys Arg Xaa Xaa Thr Lys			
115	120	125	
Phe Gly Met Ser Glu Lys Leu Gly Val Met Thr Tyr Ser Asp Thr Gly			
130	135	140	
Glu Thr Lys Ser Arg Asn Pro Ile Cys His Arg Thr Arg Asn Lys Asn			
145	150	155	160
Pro Ser Lys Gly Leu Ile			
165			

<210> 103  
 <211> 1362  
 <212> DNA  
 <213> Homo sapiens

<400> 103  
 cttttcatat ccttttattt tcccaattca tataggaaag ataagtattt tccctttcat 60  
 tttcaaaatt gatttggtaca ctaacctcct ccatagtaac taatttgat ttttttatta 120  
 tgaactcatg aatttaaaca tttgatgttg tttcagtcga ttgcagtcac tatccttatt 180  
 gattctcaaa gtgttttatt tttgacaaat aagtcttcca aattagttag ttattttgat 240  
 agtgacctta atagtctttg ctgacttcca tccctgtatg gcataacaaa acattccagg 300  
 ccccttttagt acatttcctg tcccagacct ggtattagtc atctaattctg gaagccctgc 360  
 tttctttctg tgggaaacat tatttcaaga cattagggat aagaatgccca gttgctactg 420  
 agtttggttat tgtttcaagg atttatcaat acatagagca aataattatg ttttgctttg 480  
 tcttattttt atttctttac tttagaaaca gtacagctac ttacaaatca agtttagaac 540  
 tctcagggtta tcttaaactc gaagcttcta ccttcttaag aacaaaacac cggaatgatg 600  
 agatgtcata taaatatcca tttattttat ttcacaatac atacattgac ctattgtatg 660  
 tatgattagt acaaatgggt taaattggct tgttgtgctt tgttttggtt ttgcagtttt 720  
 tttttgtcat tagattttat ctactagaa atgtatagtc aaatttctgt gttctaaagt 780  
 cacttgaagt agtttttctg tttgtagtaa tgttaccagt tggacacatt aggttcattt 840  
 atttttggga attgcttttg ttcccattta aatttttatt tatcttgctg atcttggtt 900  
 aacggtaata gaccatatac aattttctct acttttttct attkgagagt ttcttcattt 960  
 attttggttt cggtatgcaa gtatttcatt gtatgaatta ccagtttggt caattagttt 1020  
 tctttgataa catttggtgt gcttctagtc ttttggtatw acagagtctt gcaatgaata 1080  
 gtcttatgct tatatgtttt gtgggttctg gcaaggattt caacgtaatt taaggctatc 1140  
 ctctacttaa gttatggcca attaatgtgc tgattaaatg tctgtaataa tttaaaaata 1200  
 acaatactta atttaaaaga gcttataata cataattatt cattagagag atgcagcaaa 1260  
 ccaccatggc aaatgtattc ctatgtaaca aacctgcacg ttcagcaagt gtatcccagc 1320  
 actgaaagta aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 1362

<210> 104  
 <211> 86  
 <212> PRT  
 <213> Homo sapiens

<400> 104  
 Met Pro Val Ala Thr Glu Leu Val Ile Val Ser Arg Ile Tyr Gln Tyr  
 1 5 10 15



Ile Glu Gln Ile Ile Met Phe Cys Phe Val Leu Phe Leu Phe Leu Tyr  
                   20                  25                  30

Phe Arg Asn Ser Thr Ala Thr Tyr Lys Ser Ser Leu Glu Leu Ser Gly  
           35                  40                  45

Tyr Leu Lys Ser Glu Ala Ser Thr Phe Leu Arg Thr Lys His Arg Asn  
       50                  55                  60

Asp Glu Met Ser Tyr Lys Tyr Pro Phe Ile Leu Phe His Asn Thr Tyr  
       65                  70                  75                  80

Ile Asp Leu Leu Tyr Val  
                   85

<210> 105  
 <211> 479  
 <212> DNA  
 <213> Homo sapiens

<400> 105  
 ctggcttctt cggagctgtg taktcttaat ttgctttgct gctggctggc tgacagctga 60  
 tgggggactc ctcaggacgg actcccttcc agatgcaccc atctccatcc ttctcaactc 120  
 cccaaccttt gtcttcccca ctcttcgctc gcgcggcggt ctgagaccac caggaccagt 180  
 ttcaggggtt tcctttctcca gcgagacttg gcagaacagg ctttaaaagc aaaggaggca 240  
 gcggaagact gtgaattcct ttggacaatt gatgatattt atcattgtgc ccagtttcta 300  
 caaataaaaag atgggtggat tattttctcg atggaggaca aaaccttcaa ctgtagaagt 360  
 tctagaaagt atagataagg aaattcaagc attggaagaa tttagggaaa aaaaaaaaaa 420  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 479

<210> 106  
 <211> 33  
 <212> PRT  
 <213> Homo sapiens

<400> 106  
 Met Gly Gly Leu Phe Ser Arg Trp Arg Thr Lys Pro Ser Thr Val Glu  
       1                  5                  10                  15

Val Leu Glu Ser Ile Asp Lys Glu Ile Gln Ala Leu Glu Glu Phe Arg  
           20                  25                  30

Glu

<210> 107  
 <211> 333  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (70)

<220>  
 <221> unsure  
 <222> (156)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (184)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (207)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (308)

&lt;400&gt; 107

```

ctgacttact aataactaaag aagtgggggg agctcgagag ccagacggcc agacaggcag 60
acccttccan aggcccgcca ggtgggcatg gtccccatt ttctttaagg cagcacctgg 120
agtgagagaga ggccactccc tctccagccc ccgatntgga cccgggggag gggaggctga 180
tgcntttggc cccggcctgg ccaaaanagc ccatccccag ggcagtttca ggtgccggct 240
gggccctgaa tgtcaaggat aatatatagc ccgctcctgg gtcctggagc tgtggccctt 300
tgtactcntg ttgtgtccat tgtgtgtgtg cgt 333

```

&lt;210&gt; 108

&lt;211&gt; 611

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (62)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (185)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (192)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (249)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (290)

&lt;400&gt; 108

```

gtccattgtg tgtgtgcgtg gggacagagg cctggaaatg cggaggacta tacagagaag 60
gnaggttttg tgaaggccag gcagggttgg aggccggggg tgtgagagga gaggcccata 120
gggctgagtg gggtcgggtg aggcagaggt cagaaacaga agagctgcag ttgctggagc 180
tgggntgaga antgggctgc ctctgccat cccccgtct cctcccttc tcccttgggt 240
gccccctnt gctcagaatc tgaagtagtt cctcctcag caatttcatt tcttgaacac 300
tgactcacac cttttaggca cctactgtgt gcatagcatt ccaccaggac tcatctccct 360
tccttctcag ggggtcccgga gccccgacta gctttgccct aactccttca tcaaaagacc 420
ccccgccagc tccccacacc tcatacgcag ccacatctgc cctattctcc atgctttcca 480
gcttgctgc ccttctcat ctctccctgc ctgtgcagac ctccaccctt ctttcctcca 540
ccctcccatc cccaatgct ttagacatt ccattcatc cgtctcatcg tgcgtgggtc 600
ctgatcgtcc a 611

```

&lt;210&gt; 109

&lt;211&gt; 47

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 109

Met Leu Ser Ser Leu Pro Ala Leu Pro His Leu Ser Leu Pro Val Gln  
 1 5 10 15

Thr Ser Thr Leu Leu Ser Ser Thr Pro Pro Ser Pro Asn Ala Cys Arg  
 20 25 30

Pro Ser Ile His Ser Val Ser Ser Cys Val Val Ser Asp Arg Pro  
 35 40 45

&lt;210&gt; 110

&lt;211&gt; 274

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 110

atccaggcg tggggagacc attggcattt gggaaccatt ttccttcgaa cggcttcccc 60  
 ttgagctgag cattctgctt gctgcagtag acgggtcgcc ttttgcccat accgaaattt 120  
 tctgaaatta aatcgcacac cccaccatt tctctcccc tgggatctgg aggaacatca 180  
 tacatagtag gtgaatcggt ttgtagagt aagaatgcta atgtaaagca aatagtcacc 240  
 cacgttcctt tgtaaatcca aaaaaaaaaa aaaa 274

&lt;210&gt; 111

&lt;211&gt; 1646

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 111

catcgggtgg actagctggg atctccgcat tggatttggg gctgattacc actgcttgcc 60  
 tattattatt gttgttgtta ctactattat ttttttttac ccaagggaga aagacaaaaa 120  
 aacggtggga tttatttaac atgatcttgg caaacgtctt ctgcctcttc ttctttctag 180  
 acgagaccct ccgctctttg gccagccctt cctccctgca gggccccgag ctccacggct 240  
 ggcgcccccc agtggactgt gtccgggcca atgagctgtg tgccgcccga tccaactgca 300  
 gctctcgcta ccgcaactct cggcagtgcc tggcaggccg cgaccgcaac accatgctgg 360  
 ccaacaagga gtgccaggcg gccttggagg tcttgaggga gagcccgtg tacgactgcc 420  
 gctgcaagcg gggcatgaag aaggagctgc agtgtctgca gatctactgg agcatccacc 480  
 tggggctgac cgagggtgag gagttctacg aagcctcccc ctatgagccg gtgacctccc 540  
 gcctctcgga catcttcagg cttgcttcaa tcttctcagg gacaggggca gaccgggtgg 600  
 tcagcgccaa gagcaaccat tgccctggat ctgccaaagg ctgcaacctg aatgacaact 660  
 gcaagaagct gcgctcctcc tacatctcca tctgcaaccg cgagatctcg cccaccgagc 720  
 gctgcaaccg ccgcaagtgc cacaaggccc tgcgccaagt cttcgaccgg gtgcccagcg 780  
 agtacaccta ccgcatgctc ttctgctcct gccaaagacca ggcgtgctgct gagcgccgct 840  
 ggcaaaccat cctgcccagc tgctcctatg aggacaagga gaagcccaac tgcctggacc 900  
 tgcgtggcgt gtgccggact gaccacctgt gtgggtcccg gctggccgac ttccatgcca 960  
 attgtcgagc ctccctaccag acggtcacca gctgccctgc ggacaattac caggcgtgtc 1020  
 tgggctctta tgctggcatg attgggtttg acatgacacc taactatgtg gactccagcc 1080  
 ccactggcat cgtggtgtcc ccctgggtgca gctgtcgtgg cagcggaac atggaggagg 1140  
 agtgtgagaa gttcctcagg gacttcaccg agaaccctat cctccggaac gccatccagg 1200  
 cctttggcaa cggcacggac gtgaacgtgt ccccaaaaag cccctcgctt caggccaccc 1260  
 aggcccctcg ggtggagaag acgccttctt tgccagatga cctcagtgac agtaccagct 1320  
 tggggaccag tgatcatcacc acctgcacct ctgtccagga gcaggggctg aaggccaaca 1380  
 actccaaaga gttaagcatg tgcttcacag agctcacgac aaatatcatc ccaggagta 1440  
 acaaggtgat caaacctaac tcaggcccca gcagagccag accgtcggtt gccttgaccg 1500  
 ttgctgtctgt cctgatgtg aaacaggcct tgtaggctgt gggaaccgag tcagaagatt 1560  
 tttgaaagct acgcagacaa gaacagccgc ctgacgaaat ggaaacacac acagacacac 1620  
 acacaccttg caaaaaaaaaa aaaaaa 1646

&lt;210&gt; 112

&lt;211&gt; 464

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 112

Met Ile Leu Ala Asn Val Phe Cys Leu Phe Phe Phe Leu Asp Glu Thr  
 1 5 10 15

Leu Arg Ser Leu Ala Ser Pro Ser Ser Leu Gln Gly Pro Glu Leu His  
 20 25 30

Gly Trp Arg Pro Pro Val Asp Cys Val Arg Ala Asn Glu Leu Cys Ala  
 35 40 45

Ala Glu Ser Asn Cys Ser Ser Arg Tyr Arg Thr Leu Arg Gln Cys Leu  
 50 55 60

Ala Gly Arg Asp Arg Asn Thr Met Leu Ala Asn Lys Glu Cys Gln Ala  
 65 70 75 80

Ala Leu Glu Val Leu Gln Glu Ser Pro Leu Tyr Asp Cys Arg Cys Lys  
 85 90 95

Arg Gly Met Lys Lys Glu Leu Gln Cys Leu Gln Ile Tyr Trp Ser Ile  
 100 105 110

His Leu Gly Leu Thr Glu Gly Glu Glu Phe Tyr Glu Ala Ser Pro Tyr  
 115 120 125

Glu Pro Val Thr Ser Arg Leu Ser Asp Ile Phe Arg Leu Ala Ser Ile  
 130 135 140

Phe Ser Gly Thr Gly Ala Asp Pro Val Val Ser Ala Lys Ser Asn His  
 145 150 155 160

Cys Leu Asp Ala Ala Lys Ala Cys Asn Leu Asn Asp Asn Cys Lys Lys  
 165 170 175

Leu Arg Ser Ser Tyr Ile Ser Ile Cys Asn Arg Glu Ile Ser Pro Thr  
 180 185 190

Glu Arg Cys Asn Arg Arg Lys Cys His Lys Ala Leu Arg Gln Phe Phe  
 195 200 205

Asp Arg Val Pro Ser Glu Tyr Thr Tyr Arg Met Leu Phe Cys Ser Cys  
 210 215 220

Gln Asp Gln Ala Cys Ala Glu Arg Arg Arg Gln Thr Ile Leu Pro Ser  
 225 230 235 240

Cys Ser Tyr Glu Asp Lys Glu Lys Pro Asn Cys Leu Asp Leu Arg Gly  
 245 250 255

Val Cys Arg Thr Asp His Leu Cys Arg Ser Arg Leu Ala Asp Phe His  
 260 265 270

Ala Asn Cys Arg Ala Ser Tyr Gln Thr Val Thr Ser Cys Pro Ala Asp  
 275 280 285

Asn Tyr Gln Ala Cys Leu Gly Ser Tyr Ala Gly Met Ile Gly Phe Asp  
 290 295 300  
 Met Thr Pro Asn Tyr Val Asp Ser Ser Pro Thr Gly Ile Val Val Ser  
 305 310 315 320  
 Pro Trp Cys Ser Cys Arg Gly Ser Gly Asn Met Glu Glu Glu Cys Glu  
 325 330 335  
 Lys Phe Leu Arg Asp Phe Thr Glu Asn Pro Cys Leu Arg Asn Ala Ile  
 340 345 350  
 Gln Ala Phe Gly Asn Gly Thr Asp Val Asn Val Ser Pro Lys Gly Pro  
 355 360 365  
 Ser Phe Gln Ala Thr Gln Ala Pro Arg Val Glu Lys Thr Pro Ser Leu  
 370 375 380  
 Pro Asp Asp Leu Ser Asp Ser Thr Ser Leu Gly Thr Ser Val Ile Thr  
 385 390 395 400  
 Thr Cys Thr Ser Val Gln Glu Gln Gly Leu Lys Ala Asn Asn Ser Lys  
 405 410 415  
 Glu Leu Ser Met Cys Phe Thr Glu Leu Thr Thr Asn Ile Ile Pro Gly  
 420 425 430  
 Ser Asn Lys Val Ile Lys Pro Asn Ser Gly Pro Ser Arg Ala Arg Pro  
 435 440 445  
 Ser Ala Ala Leu Thr Val Leu Ser Val Leu Met Leu Lys Gln Ala Leu  
 450 455 460

<210> 113  
 <211> 355  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (133)

<220>  
 <221> unsure  
 <222> (151)

<220>  
 <221> unsure  
 <222> (196)

<220>  
 <221> unsure  
 <222> (228)

<400> 113  
 ctctcatttt tcttttcgaa gtgatatcca ctggaacgag atcaaactctg taagctggag 60  
 atacaacttc cactacataa gatccagaag gtatatcatg aaccacaaaa ctcccatctg 120  
 tcttaaggaa acngacgtgc tcttctccgt ntaccagcac tcgggcccgc gagatccagt 180

```
cctgaggctt caccntgga acaactgcac gccctcaat cttgaagnga tctcctatgc 240
cgaccccaact ccctccgat ccctcagcag cagccccggg cacctccgag ttctggacat 300
ccccgatag cagcagcagc agcaggacgg gaaagaagcc ccacagagcg gccgc 355
```

<210> 114  
 <211> 587  
 <212> DNA  
 <213> Homo sapiens

```
<400> 114
ggctggacag acttttctaata gaaccaatg gttatgatga tggttcttcc tttattgata 60
tttgtgcttc tgcctaaagt ggtcaacaca agtgatcctg acatgagacg ggaaatggag 120
cagtcaatga atatgctgaa ttccaacat gagttgcctg atgtttctga gttcatgaca 180
agactcttct cttcaaaatc atctggcaaa tctagcagcg gcagcagtaa aacaggcaaa 240
agtggggctg gcaaaaggag gtagtcagcg cgtccaragc tggcatttgc acaaacacgg 300
caacactggg tggcatccaa gtcttggaac accgtgtgaa gcaactacta taaacttgag 360
tcatccccgac gttgatctct tacaactgtg tatgttaact ttttagcaca tgttttgtac 420
ttggtacacg agaaaaccca gctttcatct tttgtctgta tgaggtcaat attgatgtca 480
ctgaattaat tacagtgtcc tatagaaaat gccattaata aattatatga actactatac 540
attatgtata ttaattaaaa catcttaatc cagaaaaaaa aaaaaaa 587
```

<210> 115  
 <211> 81  
 <212> PRT  
 <213> Homo sapiens

```
<400> 115
Met Asn Pro Met Val Met Met Met Val Leu Pro Leu Leu Ile Phe Val
  1             5             10             15

Leu Leu Pro Lys Val Val Asn Thr Ser Asp Pro Asp Met Arg Arg Glu
      20             25             30

Met Glu Gln Ser Met Asn Met Leu Asn Ser Asn His Glu Leu Pro Asp
      35             40             45

Val Ser Glu Phe Met Thr Arg Leu Phe Ser Ser Lys Ser Ser Gly Lys
      50             55             60

Ser Ser Ser Gly Ser Ser Lys Thr Gly Lys Ser Gly Ala Gly Lys Arg
      65             70             75             80
```

Arg

<210> 116  
 <211> 601  
 <212> DNA  
 <213> Homo sapiens

```
<400> 116
gatgtaccta ggcaccgcgc agcctgcggc ccccaacacc acctcccccg agctcaacct 60
gtcccacccg ctccctggga ccgccctggc caatgggaca ggtgagctct cggagcacca 120
gcagtacgtg atcggcctgt tctctcgtg cctctacacc atcttctctt tccccatcgg 180
ctttgtgggc aacatcctga tcttggtggt gaacatcagc ttccgcgaga agatgaccat 240
ccccgacctg tacttcatca acctggcggt ggccgacctc atcctggttg ccgactccct 300
cattgaggtg ttcaacctgc acgagcggta ctacgacatc gccgtcctgt gcaccttcac 360
gtcgtctctt ctgcagggtc acatgtacag cagcgtcttc ttctcacct ggatgagctt 420
cgaccgctac atcgccctgg ccagggccat gcgctgcagc ctgttccgca ccaagcacca 480
```

cgcccggtg agctgtggcc tcacttggat ggcattcgtg tcagccacgc tgggtgccctt 540  
 caccgcccgtg cacctgcagc acaccgacga ggcctgcttc tgtttcgagg atgtccggga 600  
 g 601

<210> 117  
 <211> 200  
 <212> PRT  
 <213> Homo sapiens

<400> 117  
 Met Tyr Leu Gly Thr Ala Gln Pro Ala Ala Pro Asn Thr Thr Ser Pro  
 1 5 10 15  
 Glu Leu Asn Leu Ser His Pro Leu Leu Gly Thr Ala Leu Ala Asn Gly  
 20 25 30  
 Thr Gly Glu Leu Ser Glu His Gln Gln Tyr Val Ile Gly Leu Phe Leu  
 35 40 45  
 Ser Cys Leu Tyr Thr Ile Phe Leu Phe Pro Ile Gly Phe Val Gly Asn  
 50 55 60  
 Ile Leu Ile Leu Val Val Asn Ile Ser Phe Arg Glu Lys Met Thr Ile  
 65 70 75 80  
 Pro Asp Leu Tyr Phe Ile Asn Leu Ala Val Ala Asp Leu Ile Leu Val  
 85 90 95  
 Ala Asp Ser Leu Ile Glu Val Phe Asn Leu His Glu Arg Tyr Tyr Asp  
 100 105 110  
 Ile Ala Val Leu Cys Thr Phe Met Ser Leu Phe Leu Gln Val Asn Met  
 115 120 125  
 Tyr Ser Ser Val Phe Phe Leu Thr Trp Met Ser Phe Asp Arg Tyr Ile  
 130 135 140  
 Ala Leu Ala Arg Ala Met Arg Cys Ser Leu Phe Arg Thr Lys His His  
 145 150 155 160  
 Ala Arg Leu Ser Cys Gly Leu Ile Trp Met Ala Ser Val Ser Ala Thr  
 165 170 175  
 Leu Val Pro Phe Thr Ala Val His Leu Gln His Thr Asp Glu Ala Cys  
 180 185 190  
 Phe Cys Phe Ala Asp Val Arg Glu  
 195 200

<210> 118  
 <211> 419  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (80)  
 <220>

&lt;221&gt; unsure

&lt;222&gt; (178)

&lt;400&gt; 118

```

acgcctgagc gtcctccatc ttccaggatg gcagcaatgg cgctgtgagg cctcaccagg 60
cccacgagga gcagcagcgn tcggcccggg gcagcaggaa ggcccttttg tggagcgccc 120
gccgtctgct ccgggggtggg tcagtcactg cttgttgaca tcaacatggc aattgcantc 180
atgtggactg ggaccgtgag agctgccgtg tgggttagtc gggtgccagg acaatgaaat 240
actccagcac gtgtggctga cgaatttgtt ttacagaaa taacagctgg ggacaactgc 300
ggatgatgat taaaaacctt ccataaaat gtaagaaaag ctgatgaggc tggtagcgtt 360
cagcctttgt caataaacct gtcatgtgag gaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 419

```

&lt;210&gt; 119

&lt;211&gt; 714

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens .

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (646)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (649)

&lt;400&gt; 119

```

agccattggg acaggaaatg ccaaacaaca cccagataag gttgctgaag ccataattga 60
tgccattgaa gactttgtcc agaaaggatc agcccagtct gtgaaaaaag ttaaagtgtg 120
tatctttctg cctcaagtac tggatgtgtt ttatgccaac atgaagaaaa gagaaggagc 180
tcagctttct tcccaacagy ctartswtsy ytwmytthy akcatttttg ggcttttcaa 240
agcaatctcc ccaaaaaaag aatcatttgg ttttgaaaa gaaaacagaa tcagcaactt 300
ttcgggtgtg tggtagaaat gtcacgtgtg tgggaatagc tatctcctgg ctacaagacc 360
tgattgaaaa agaacagtgt ccttacacca gtgaagatga gtgcatcaaa gactttgatg 420
aaaaggagta tcaggagtgt aatgagctgc agaagaagt aaatattaac atttccttgg 480
accataagag acctttgatt aaggtttttg gaattagcag agatgtgatg caggctagag 540
atgaaattga ggcatgatc aagagagttc gattggccaa agaacaggaa tcccgggcag 600
attgtatcag tgagtttata gaatggcagt ataatgaca taacanttnt cattgtttta 660
acaaaatgac caatctgaaa ttagaggatg caaggagaga aaaaaaaaaa aaaa 714

```

&lt;210&gt; 120

&lt;211&gt; 159

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (141)..(142)

&lt;400&gt; 120

```

Phe Leu Gly Phe Ser Lys Gln Ser Pro Gln Lys Lys Asn His Leu Val
  1             5             10             15

Leu Glu Lys Lys Thr Glu Ser Ala Thr Phe Arg Val Cys Gly Glu Asn
      20             25             30

Val Thr Cys Val Glu Tyr Ala Ile Ser Trp Leu Gln Asp Leu Ile Glu
    35             40             45

Lys Glu Gln Cys Pro Tyr Thr Ser Glu Asp Glu Cys Ile Lys Asp Phe
    50             55             60

```



Asp Glu Lys Glu Tyr Gln Glu Leu Asn Glu Leu Gln Lys Lys Leu Asn  
65 70 75 80

Ile Asn Ile Ser Leu Asp His Lys Arg Pro Leu Ile Lys Val Leu Gly  
85 90 95

Ile Ser Arg Asp Val Met Gln Ala Arg Asp Glu Ile Glu Ala Met Ile  
100 105 110

Lys Arg Val Arg Leu Ala Lys Glu Gln Glu Ser Arg Ala Asp Cys Ile  
115 120 125

Ser Glu Phe Ile Glu Trp Gln Tyr Asn Asp Asn Asn Xaa Xaa His Cys  
130 135 140

Phe Asn Lys Met Thr Asn Leu Lys Leu Glu Asp Ala Arg Arg Glu  
145 150 155

<210> 121  
<211> 2681  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> (2656)

<400> 121  
cataacttcc aatcttcttg gcctggcact aaggacctac tacagactgg cactgaaata 60  
tcttccctac cttatcattc cttgtgcttc tccacaagcc cactcttccc cttcatcata 120  
catgtgccga cctttcctgt ctcttttact ttgcagcacc aaatgcttcc tactttgtgg 180  
tctaggagga acacatgtca cttttgtaag ctgctcgaaa gcaggggcca caccttcac 240  
cttgttttcc acacaacacc aagcacttag tagacacca ataatcatt gctgaatgaa 300  
tgtattcagc ctggaattgc actaggattt ttgggccaac acattgtatt cttactgat 360  
accagacttc caatcaaata aaatccttaa gcctttttca tagtctttaa ttaactact 420  
tctcttccat tatttccctt tgccactttt tgaactgata ttcagaactt ttctgttaat 480  
gtttaatttt catccattat tcttgtctgt acagatcttt ttgatttttg actctcttat 540  
ctagtttttt tttttttttt ttggcttccc gttgtgttat ccacaggcac aatgggtata 600  
ttgactatcg ttcattgaag ttgttgatac aaatgttgaa caggagaaaa accagtagct 660  
tgccaaactt gcacctcatt ctctagcttg acagtaatct cttatctagt agtttttaga 720  
tatgggtatt taatcaaata tcaatagctt ctaattttgt tataattcat tcatgtatac 780  
agacaatgaa gaatcatctt tcttcatcca acacatttat tgggaaccaa tcatgtcca 840  
aggcaatatg ctaggcattg tgtaatagaa agcgattaag cttttacccc tgtcctcttt 900  
ggcctgcaaa gagcaggtaa gattcatgca cagacaaatg tagtaccagg taaatagtga 960  
ggccaaacac aagaggcagg tcaaagggtc ttggattcag aggatggaga agctctttct 1020  
aggctggtga aatatttgca gaatgagtag gtcataagt ggaggtgagg tacaggctaa 1080  
gctgctgtaa gaaagagtcc aaaatgcaaa ggatttacca caatgcagt aatttttctc 1140  
acaacggtcg aggtaggcag gtggtccaag tccagttaat cagccctcct caacacaagg 1200  
cttccctctg taagctcagg atgaccgctc cagttctcat catctcccag gcagaaaaac 1260  
gggagaaaga gaactagacg taccacccag tcattttaag gacatagcca ggccagggtc 1320  
agtgaactac atctgtaatc caagcacttt gggaggctcg aggctggagg atagcttgaa 1380  
gccaggagtt tgagaccagc ttggataaga aagcaagacc ttgtctctac aaaaaattta 1440  
aaaattaacc atgtgtggtg gtgtgcacct atagtcccag ctactcagga ggctgaggtg 1500  
gaaggatcac ttgagcacag gagttggagg atacagttag ccatgatcac accacctcac 1560  
tccagccttg gcaacatagt gagaccccat ctcttttaaaa aacaaaacaa aaaaacatca 1620  
ccaggaaagt gcttacatgt cttctatttc tataacatcg gcctgagctt agtcacatgg 1680  
ccacacccag cagaaagaac tctaggaaat atggtcttat gctaggtaac cccaaaccca 1740  
gctaaaactg ttgcttttga agaagggtga aacagacaat gtggaggaga attaccagtc 1800

```

tgccacaaag agaaagaatt ctatgtgagg aaaacgctct agaagagggga gctgattaat 1860
tagttatata tcagccgaga ggatgttatg agaaacacag atttgggttt aatagaaaaa 1920
cttagaacc cccaagaagg aatgggcgga cttgagagtg tcctccgctt ctgaaaatga 1980
tcaagaaaaa gtgtaagaat gtacacctca aggtgtggtg gtaaagggtca gcctttaagc 2040
ctcaatggcg gtgtggttgt aggtggggtg ggggtggagg cccgaagac aggcagacta 2100
ccacagtagc cccgatggaa gcagtggaaa tgaactggaa ggagcggctg tgggagcgac 2160
aacgtgatga gaataaacc ccgttggtgc tgcctgtgc acacacaggt gagctgtgtg 2220
ctcccgatg tgtcagctgg tatatgcgtc tgtcagaagg cagctgggga gcactgttag 2280
ctcagagact aagaggcaga cccaggaagc ccttctttgc attggtcagg gtttgcgtgca 2340
ttttccaag cccaggaaat ggaacccagt tcttcttctt tctgtgtaaa ataataagca 2400
tcacaatagg ctgtgctcat gagaacgcat tttgtttcca cagaaatgtt ttttctcact 2460
ctgtcctgat tttgatttct gttaaactca gtaaacacat taccaaattt taaaataagg 2520
tgacttggtt tcccaactc acagttcacc aaaggtattt catctgtttg ttctgaaaat 2580
gcagctgctg tctagattta tgtgtgctct gacaagaaat gttttgtgta acaataaaaa 2640
tcatttcctt tgatgnaaaa aaaaaaaaaa aaaaaaaaaa a 2681

```

&lt;210&gt; 122

&lt;211&gt; 132

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 122

```

Met Glu Ala Val Arg Met Asn Trp Lys Glu Arg Leu Trp Glu Arg Gln
  1                      5                      10                     15

```

```

Arg Asp Glu Asn Lys Pro Gly Leu Ala Leu Pro Cys Ala His Thr Gly
          20                      25                     30

```

```

Glu Leu Cys Ala Pro Gly Cys Val Ser Trp Tyr Met Arg Leu Ser Glu
          35                      40                     45

```

```

Gly Ser Trp Gly Ala Leu Leu Ala Gln Arg Leu Arg Gly Arg Pro Arg
          50                      55                     60

```

```

Lys Pro Phe Phe Ala Leu Val Arg Val Cys Cys Ile Phe Pro Ser Pro
          65                      70                     75                     80

```

```

Gly Asn Gly Thr Gln Phe Phe Phe Phe Leu Cys Lys Ile Ile Ser Ile
          85                      90                     95

```

```

Thr Ile Gly Cys Ala His Glu Asn Ala Phe Cys Phe His Arg Asn Val
          100                     105                    110

```

```

Phe Ser His Ser Val Leu Ile Leu Ile Ser Val Lys Leu Ser Lys His
          115                     120                    125

```

```

Ile Thr Lys Phe
          130

```

&lt;210&gt; 123

&lt;211&gt; 1585

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 123

```

ctaagctatt tgattctagg tctagaatgt tatctcttat tagaggatat gttaattttc 60
ctgcatttta ttcatattt aacttaacat ctctgattgc ctaccatgtg tcaggctctg 120
tactaaggat tgaggacca aagatgaaca aaacatgggg cctaattcaa agatttcaca 180
atctggagag aaagtcagcc acatacaaaa aattataagg tagaatgtgc tataaaaaat 240

```

```

gatttaggta cagtgggaagt ttagaaagggc ttcactaaag atgtcgtatt tgaattgggt 300
ctgagcatga attagtcttc aggtgagggga ggggggttaa gaaaactcta atgaaggaac 360
tctagtatgt gtgaaggcaa ggaggtctggt gtgttttaggt tgcagcaaac caagtacaac 420
caggcttgga cttgagtgac tggaaagaca ggaagatgcc atgctgagaa aaactgcccc 480
tgccaagctg agaaatgttc agcagaaaca taagggtgagc tgcataatgtc atttaaaatg 540
ttctaggagc cacattttta aaaaatcaaa attaacaagt caaaaaataa aaagcaatgg 600
ggggagatta aatgcatatt actaagtga agagccaat ccaaaaagggc tacatacctg 660
tatgattcca actatatgac attctgaaaa aggccaaact atagagacag taaatgatca 720
gtggttgcca ggagttaggg aggagggagg gatgaacagg cagagcacag aagattttta 780
gagcagtaga actattttgt atgatattat aatattgtag atacatatca ttataaattt 840
gtccaaaccc atagaatgta caccaagagt gaactcctaat gtaaaactgtg gactttgggt 900
gataatgatg tgtcagtgtg gattgatcag ttgtaacaaa tgtaccattc tgggtgggaa 960
tggtgataat ggagtaggct atgcatgtgt ggggcagtgg gtatatggga aatatctata 1020
ccttctgggc agttttgctg tgaacttgat ctaaaaaata gcctactaag aaacacaagt 1080
caaattaatt ttaataatac attttattta acccaattta tcagaaatac taatatttta 1140
acatgtaatt gatataaaag ttatttaact gatatcttac tttttttggt actgagtcct 1200
tgaaatctgg tctgtatttt acattttacag tacatctcaa ttcacattag ccacatttca 1260
gatactcagt acatacatga gtacctatgg ctagtggctg ctgtgttgga cagggcaggt 1320
cttgaaacct ggacttgctt gactcagaag cctcaattct cagccacagt gatatcctgc 1380
tcctaagta ctataatgat aaacacaaga ggagaggagc ttccagatga tcatctaate 1440
ccatgacgtt agctgttgct ctccacactg cccggtggct ccagtctgaa gcatctaggc 1500
agtgtgtcc aacagaaata caatgagagc caatacgtga taagtgtcct atgggccaca 1560
ttgaacagat aaaaaaaaaa aaaaaa 1585

```

&lt;210&gt; 124

&lt;211&gt; 63

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 124

```

Met Leu Ser Leu Ile Arg Gly Tyr Val Asn Phe Pro Ala Phe Tyr Ser
  1             5             10             15

```

```

Phe Ile Asn Leu Thr Ser Leu Ile Ala Tyr His Val Ser Gly Ser Val
          20             25             30

```

```

Leu Arg Ile Glu Asp Pro Lys Met Asn Lys Thr Trp Gly Leu Ile Gln
          35             40             45

```

```

Arg Phe His Asn Leu Glu Arg Lys Ser Ala Thr Tyr Lys Lys Leu
          50             55             60

```

&lt;210&gt; 125

&lt;211&gt; 625

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 125

```

gatccaccca gttctgcctg gcttccctcca tccccagagg cactaaaagc agtattttta 60
ggttgggtgc ttactccctg gaagcctgaa atgggtggaa tagcggtaag gcttgagtaa 120
aactagggga cagaggttct tatttgctga ttttatttta taatttgacc acagcatctg 180
aactccctct ctccctggaa taagtatttt tcccacattt ttggatata gtatggtaga 240
caattttttt ttaagacaca gagataaatg ttttctgctt ttggttacct ttcctttccc 300
ctttaaaagg aattagctat agaactgctt tgtaaagatg cttcttgata ttttactttt 360
gttccctttt cctaatacatt ccctttttctc cccactcctc cagaaggcat aaccctttctc 420
tccacacccc ctacccccac ccccgctccta ggctcccatc ctttccatca agaccttcat 480
tagcttatga tatttgctgc cgagatgtta taacaaggac tcgttcatgt atataagcta 540
tttcttgatc catttaaaag gaattgtaca ttgtgtagga aaaaaaaaaa aaaaaaaaaa 600
aaaaaaaaaa aaaaaaaaaa aaaaaa 625

```

<210> 126  
 <211> 24  
 <212> PRT  
 <213> Homo sapiens

<400> 126  
 Met Leu Leu Asp Ile Leu Leu Leu Phe Leu Phe Pro Asn His Ser Leu  
           1                  5                  10                  15  
 Phe Ser Pro Leu Leu Gln Lys Ala  
                           20

<210> 127  
 <211> 1946  
 <212> DNA  
 <213> Homo sapiens

<400> 127  
 gaagctgggg cccagcggag gtagcagcag acgcctgaga gcgaggccga ggccccctcag 60  
 ggtttgagaga ccctgacaca cccaccttct cacttgggct ctgcgtatcc cccagccttg 120  
 aggggaagatg aagcctaaac tgatgtacca ggagctgaag gtgcctgcag aggagcccg 180  
 caatgagctg cccatgaatg agattgaggc gtggaaggct gcggaaaaga aagcccgctg 240  
 ggtcctgctg gtccctcattc tggcggttgt gggcttcgga gccctgatga ctcagctgtt 300  
 tctatgggaa tacggcgact tgcattctct tgggcccac cagcgcacag cccctgcta 360  
 tgacccttgc gaarcagtgc tgggtggaaag cattcctgar ggcctggact tccccaatgc 420  
 ctccacgggg aacccttcca ccagccaggc ctggctgggc ctgctcgccg gtgcgcacag 480  
 cagcctggac atcgctcctt tctactggac cctcaccaac aatgacaccc acacgcagga 540  
 gccctctgcc cagcagggtg aggaggtcct ccggcagctg cagaccctgg caccaaagg 600  
 cgtgaacgtc cgcacgctg tgagcaagcc cagcgggccc cagccacagg cggacctgca 660  
 ggctctgctg cagagcggtg cccagggtccg catggtggac atgcagaagc tgacctatgg 720  
 cgtcctgcat accaagttct ggggtgggga ccagaccac ttctacctgg gcagtgccaa 780  
 catggactgg cgttactga cccagggtcaa ggagctgggc gtgggtcatgt acaactgcag 840  
 ctgcctggct cgagacctga ccaagatctt tgaggcctac tggttcctgg gccaggcagg 900  
 cagctccatc ccatcaactt ggccccggtt ctatgacacc cgctacaacc aagagacacc 960  
 aatggagatc tgccctcaatg gaaccctgc tctggcctac ctggcgagtgc cgcctccacc 1020  
 cctgtgtcca agtggccgca ctccagacct gaaggctcta ctcaacgtgg tggacaatgc 1080  
 ccggagtttc atctacgtcg ctgtcatgaa ctacctgcc actctggagt tctccaccc 1140  
 tcacaggttc tggcctgcca ttgacgatgg gctgcgccgg gccacctacg agcgtggcgt 1200  
 caaggtgcgc ctgctcatca gctgctgggg acactcggag ccattccatgc gggccttct 1260  
 gctctctctg gctgcctgc gtgacaacca taccactct gacatccagg tgaaactctt 1320  
 tgtggtcccc gcgatgagg cccaggctcg aatcccatat gccgtgtca accacaacaa 1380  
 gtacatgggt actgaacgcg ccacctacat cggaacctcc aactggtctg gcaactactt 1440  
 cacggagacg gcgggcacct cgctgctggt gacgcagaat gggaggggag gcctgcggag 1500  
 ccagctggag gccattttcc tgagggactg ggactccct tacagccatg accttgacac 1560  
 ytcagytgac agsgtgggca acgcctgccg cytgytctga ggcccgatcc agtgggcagg 1620  
 ccaaggcctg ctgggcccc gcggaccag gtgytctggg tcacggtccc tgtccccgca 1680  
 cccccgytty tgytgcccc attgtggctc ctcaggytyt ytccctgyt cccccaccty 1740  
 tacctccacc cccaccggcc tgacgctgtg gccccgggac ccagcagagc tgggggagg 1800  
 atcagcccc aaagaaatgg ggggtgcatgc tgggcctggc cccctggccc accccaytt 1860  
 ttcagggcaa aaagggccca ggggtataat aagtaaataa cttgtctgta aaaaaaaaaa 1920  
 aaaaaaaaaa aaaaaaaaaa aaaaaa 1946

<210> 128  
 <211> 490  
 <212> PRT  
 <213> Homo sapiens

<220>

&lt;221&gt; UNSURE

&lt;222&gt; (83)

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (480)

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (482)

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (490)

&lt;400&gt; 128

Met Lys Pro Lys Leu Met Tyr Gln Glu Leu Lys Val Pro Ala Glu Glu  
 1 5 10 15

Pro Ala Asn Glu Leu Pro Met Asn Glu Ile Glu Ala Trp Lys Ala Ala  
 20 25 30

Glu Lys Lys Ala Arg Trp Val Leu Leu Val Leu Ile Leu Ala Val Val  
 35 40 45

Gly Phe Gly Ala Leu Met Thr Gln Leu Phe Leu Trp Glu Tyr Gly Asp  
 50 55 60

Leu His Leu Phe Gly Pro Asn Gln Arg Pro Ala Pro Cys Tyr Asp Pro  
 65 70 75 80

Cys Glu Xaa Val Leu Val Glu Ser Ile Pro Glu Gly Leu Asp Phe Pro  
 85 90 95

Asn Ala Ser Thr Gly Asn Pro Ser Thr Ser Gln Ala Trp Leu Gly Leu  
 100 105 110

Leu Ala Gly Ala His Ser Ser Leu Asp Ile Ala Ser Phe Tyr Trp Thr  
 115 120 125

Leu Thr Asn Asn Asp Thr His Thr Gln Glu Pro Ser Ala Gln Gln Gly  
 130 135 140

Glu Glu Val Leu Arg Gln Leu Gln Thr Leu Ala Pro Lys Gly Val Asn  
 145 150 155 160

Val Arg Ile Ala Val Ser Lys Pro Ser Gly Pro Gln Pro Gln Ala Asp  
 165 170 175

Leu Gln Ala Leu Leu Gln Ser Gly Ala Gln Val Arg Met Val Asp Met  
 180 185 190

Gln Lys Leu Thr His Gly Val Leu His Thr Lys Phe Trp Val Val Asp  
 195 200 205

Gln Thr His Phe Tyr Leu Gly Ser Ala Asn Met Asp Trp Arg Ser Leu  
 210 215 220

Thr Gln Val Lys Glu Leu Gly Val Val Met Tyr Asn Cys Ser Cys Leu  
 225 230 235 240

Ala Arg Asp Leu Thr Lys Ile Phe Glu Ala Tyr Trp Phe Leu Gly Gln  
 245 250 255

Ala Gly Ser Ser Ile Pro Ser Thr Trp Pro Arg Phe Tyr Asp Thr Arg  
 260 265 270

Tyr Asn Gln Glu Thr Pro Met Glu Ile Cys Leu Asn Gly Thr Pro Ala  
 275 280 285

Leu Ala Tyr Leu Ala Ser Ala Pro Pro Pro Leu Cys Pro Ser Gly Arg  
 290 295 300

Thr Pro Asp Leu Lys Ala Leu Leu Asn Val Val Asp Asn Ala Arg Ser  
 305 310 315 320

Phe Ile Tyr Val Ala Val Met Asn Tyr Leu Pro Thr Leu Glu Phe Ser  
 325 330 335

His Pro His Arg Phe Trp Pro Ala Ile Asp Asp Gly Leu Arg Arg Ala  
 340 345 350

Thr Tyr Glu Arg Gly Val Lys Val Arg Leu Leu Ile Ser Cys Trp Gly  
 355 360 365

His Ser Glu Pro Ser Met Arg Ala Phe Leu Leu Ser Leu Ala Ala Leu  
 370 375 380

Arg Asp Asn His Thr His Ser Asp Ile Gln Val Lys Leu Phe Val Val  
 385 390 395 400

Pro Ala Asp Glu Ala Gln Ala Arg Ile Pro Tyr Ala Arg Val Asn His  
 405 410 415

Asn Lys Tyr Met Val Thr Glu Arg Ala Thr Tyr Ile Gly Thr Ser Asn  
 420 425 430

Trp Ser Gly Asn Tyr Phe Thr Glu Thr Ala Gly Thr Ser Leu Leu Val  
 435 440 445

Thr Gln Asn Gly Arg Gly Gly Leu Arg Ser Gln Leu Glu Ala Ile Phe  
 450 455 460

Leu Arg Asp Trp Asp Ser Pro Tyr Ser His Asp Leu Asp Thr Ser Xaa  
 465 470 475 480

Asp Xaa Val Gly Asn Ala Cys Arg Leu Xaa  
 485 490

<210> 129  
 <211> 6254  
 <212> DNA  
 <213> Homo sapiens

<400> 129  
 agggctcctgg gcagtcgcgc cagagctgag cggagggcgc ggcgcgagaa cgaatctttg 60  
 tgacattctc tctcagcatt ctttatcccc tgtttgctga agacttcgac caaagctggt 120  
 cttagctggt ggcatctcc tgagaaaagg atagcttcag aaatcagaaa aacatttggg 180  
 aggtgtctag cccagtggac cttctgaaga gcaatgctaa gaagacgttt ggtttaaaga 240

```

attaaaagga agaacaactt aagagcttct tcaaagttcc ccgcatgaaa attacttaaa 300
cgttgccacac aacgtttcac aaaatctttt gtgaaagaag aaaaggaaat tcagtgtgtg 360
agtctcagca ggagtttaagc taatgcagct taacatcatg ccgacaaaaga agcgcttatac 420
tgccgggcaga gtgccccga ttctcttctt gtgccagatg attagtgcac tggaagtacc 480
tcttgatcca aaacttcttg aagacttggg acagcctcca accatcaccc aacagtctcc 540
aaaagattac attattgacc ctccgggagaa tattgtaatc cagtgtgaag ccaaaggga 600
accgccccca agcttttctt ggaccctga tgggactcat tttgacatcg ataaagacc 660
tctggtcacc atgaagcctg gcacaggaac gctcataatt aacatcatga gcgaaggga 720
agctgagacc tatgaaggag tctatcagtg tacagcaagg aacgaacgcg gagctgcagt 780
ttctaataac attgttgtcc gcccatccag atcaccattg tggaccaaag aaaaacttga 840
accaatcaca cttcaaagtg gtcagtcttt agtacttccc tgcagacccc caattggatt 900
accaccacct ataatatatt ggatggataa ttcctttcaa agacttccac aaagtgaag 960
agtttctcaa ggtttgaatg gggaccttta tttttccaa gtctctccag aggacacccg 1020
cgaagactat atctgttatg ctgattttaa tcatactcaa accatacagc agaagcaacc 1080
tatttctgtg aaggtgattt cagctaaatc aagtagagag aggccaccaa catttttaa 1140
tccagaaggc aatgcaagta acaaagagga attaagagga aatgtgcttt cactggagt 1200
cattgcagaa ggactgccta ccccaattat ttactgggca aaggaagatg gaatgctacc 1260
caaaaacagg acagtttata agaactttga gaaaacctg cagatcattc atgtttcaga 1320
agcagactct ggaaattacc aatgtatagc aaaaaatgca ttaggagcca tccaccatac 1380
catttctgtc agagttaaag cggctccata ctggatcaca gcccctcaa atcttgtgtc 1440
gtccccagga gaggatggga ccttgatctg cagagctaat ggcaaccca aaccagaa 1500
tagctgggta acaaatggag tcccaataga aattgcccct gatgaccca gcagaaaaat 1560
agatggcgat accattattt tttcaaatgt tcaagaaaga tcaagtgcag tatatcagt 1620
caatgcctct aatgaatatg gatatttact ggcaaacgca tttgtaaatg tgctggctga 1680
gccaccacga atcttcacac ctgcaaacac actctaccag gtcattgcaa acaggcctgc 1740
tttactagac tgtgccttct ttgggtctcc tctcccaacc atcgagtggg ttaaaggagc 1800
taaaggaagt gctcttcacg aagatattta tgttttacat gaaaatggaa ctttggaaat 1860
tctgtgggcc caaaaggaca gtacaggaac ttatacgtgt gttgcaagga ataaattag 1920
gatggcaaa aatgaagttc acttagaaat caaagatgct acatggatcg ttaaaccagc 1980
cgaatatgca gttgtgcaaa gagggagcat ggtgtccttt gaatgcaaa tgaaacatga 2040
tcacacctta tccctcactg tctgtgggct gaaggacaac agggaaactgc ccagtgtga 2100
aaggttcact gttgacaagg atcatctagt ggtagctgat gtcagtgcag atgacagcg 2160
gacctacacg tgtgtggcca acaccactct ggacagcgtc tccgccagcg ctgtgcttag 2220
cgttgttgct cctactcaa ctccagctcc cgtttacgat gtcccaaate cctcctttga 2280
cttagaactg acagatcaac ttgacaaaag tgttcagctg tcatggacc caggcgatga 2340
caacaatagc cccattacaa aattcatcat cgaatatgaa gatgcaatgc acaagccagg 2400
gctgtggcac caccaaactg aagtttctgg aacacagacc acagcccagc tgaagctgtc 2460
tccttacgtg aactactcct tccgcgtgat ggcagtgaac agcattggga agagcttgcc 2520
cagcgaggcc tctgagcagt atttgacgaa agcctcagaa ccagataaaa accccacagc 2580
tgtggaagga ctgggatcag agcctgataa tttgttgatt acgtggaagc ccttgaatgg 2640
tttgaatct atgtggccag gccttcagta caaagttagc tggcgccaga aagatggtga 2700
tgatgaatgg acatctgtgg ttgtggcaaa ttatccaaa tatattgtct caggcacgcc 2760
aacctttgtt ccatacctga tcaaagttca ggcctgaat gacatggggg ttgccccga 2820
gccagctgta gtcattgggac attctggaga agacctcca atggtggctc ctgggaacgt 2880
gcgtgtgaat gtggtgaaca gtaccttagc cgaggtgcac tgggacccag tacctctgaa 2940
aagcatccga ggacacctac aaggctatcg gatttactat tggaagacc agagttcac 3000
taaaagaaac agacgtcaca ttgagaaaaa gatcctcacc ttccaaggca gcaagactca 3060
tgcatgttg ccggggctag agccctttag ccactacaca ctgaatgtcc gagtggtaaa 3120
tggaagaggg gagggcccag ccagccctga cagagtcttt aatactccag aaggagtccc 3180
cagtgtctcc tctcttttga agattgtgaa tccaacactg gactctctca ctttggaaat 3240
ggatccaccg agccaccga atggcatttt gacagagtac acctaaagt atcagccaa 3300
taacagcaca catgaattag gccctctggg agatttgaaa attcctgcca acaagacacg 3360
gtggacttta aaaaatttaa atttcagcac tcgatataag ttttatttct atgcacaaac 3420
atcagagga tcaggaagtc aaattacaga ggaagcagta acaactgtgg atgaagctgg 3480
tattcttcca cctggttag gtgcaggcaa agcgatggca agccggcagg tggatattgc 3540
aactcagggc tgggttcattg gtctgatgtg tgctgttgct ctctttatct taattttgct 3600
gattgtttgc ttcattcagaa gaaacaaggg tggtaaatat ccagttaaag aaaaggaaga 3660
tgcccatgct gacctgaaa tccagcctat gaaggaagat gatgggacat ttggagaata 3720
cagtgtatga gaagaccaca agcctttgaa aaaaggaagt cgaactcctt cagacaggac 3780
tgtgaaaaaa gaagatagtg acgacagcct agttgactat ggagaagggg ttaatggcca 3840

```

```

gttcaatgag gatggctcct ttattggaca atacagtggg aagaaagaga aagagccggc 3900
tgaaggaaac gaaagctcag aggcaccttc tcctgtcaac gccatgaatt cctttgttta 3960
atttttaagc tctttgccaa tattccattt ctctagaatg tttatcctaa gcacttgttt 4020
gtcagccctc tcatactatg aacatatggg tagagagtat attttctgct gtatgttagt 4080
attatgagaa tagttacagc aaaaacataa ctcagtcaaa tgatatgtta atatgaactg 4140
gaatgcaaaag tgcatacttt ttcattcaaa atgggtattc ttgatttcct cagaactgat 4200
aaaaaataat gcaacatcac caacagatcc tgttatttcc tctgcaggat acagttcaat 4260
atgatgcatg aaaaatgctc cacattttaa ggacataccc gtgtatgtta tgaaaacatg 4320
gtttgatact ttgtttatac taccctcagc tgaaccctta tatatgaatt ccgttttcat 4380
tgtaagaat gttactgtag tattctctag aacttcaatg tctttgtgga cattgttgtg 4440
aaattgggtga ctatgtatag ctgtcgttag tctttttggg agactgttag gaacagtttg 4500
tacagtatat acttgctaaa tgagttcatt atgacagtca cattgctgat gcttactgag 4560
aactattacc tactcttggc tcctgttact ccgtaggctt ctaatcttc caggcattac 4620
agcagcacag tgttctactt ttacatcat ttctatgttc ggttgttttt aggcataaac 4680
aatgtgtatt gcagtgcatt tcggcatttg tgccatactg aaagaatcaa aaacaaatca 4740
tccaaattaa atttcaaaca ttatttcaga gaacacaggg caagacacat acagtgcctt 4800
cagatattaa gcattccaca acatcgtgca ttctgtatca gctgggccag tccattcttg 4860
gtcctagatt actgtcattg tctaaaagta acttttaaaa agcagagttc atgaaaactg 4920
caatgctggg aaaagaagga aacatgaaaa taaaaataag acagtttatt agaaatagca 4980
tttctcataa gcatataaaa gaaatctttg ttgccaactg aagcacatgg gattttgtgg 5040
tcctttatgg ttctataaac attcagtaag aaagatgtca acatgctaga aaattaattt 5100
taaaactaag ttattccaac actaaaagca tacaacagca tgccaacagt aatatattat 5160
tctccaagac ttacctatg taagtgttca aaactctgca gcattaaaca acgtgtatgc 5220
aaattgttat ggatacattt cagaatctaa gaaatcaggc aagtgttaa aaggccaacg 5280
gtccaaggga ttacatctgc agtttaaaaa gtaaatatat attctatcgt attcataaac 5340
aatatctatc aaatgggtta cctccaaata tgaaatcta taacaaccta tggttgaagg 5400
aatgctcagt ttcatttgcc aataaattgg tttctcataa cttgcatcaa gtttaatttt 5460
aagtaaagct ttttatatgt agatatattt ttgaatttgt aaatacactt aaaatgtaga 5520
tgctatatgc ttataggtgt tacatacaaa taaacatgca atgtttatgt tgtactgtat 5580
aagaggtaag ctaattaatg cagtgaatgg gattggaaag catctactta aatatctatt 5640
gggttcccc cccccccc cttttttgct gtgaaactga aatagtgaac ttttctacgt 5700
attgacagca gatttttcga tgaaatcttc agagctttgc ctatggggca cagtaggcct 5760
agtaacctgg catgtttgat atatgtagg aaagcataat ttaaagtaat cccaggtaaa 5820
gatggcccta aatactttca tgtctctata ttcatTTTTT acagatccac ctgtctcttg 5880
aaaatataaa aagacaaaac aggtttgcct tggcatcaga gagcaciaag attaaaagt 5940
actttaaatt tgccaatatt ttgggagaac aataaaacta cattttttcy tyttccatac 6000
tggtagatgc gaaatttatc tgtgcatgaa agggtcactt ctgtaatagt gcacagattt 6060
ggattataaa attaaatgtg gttttaaaag ttcttytyt ttttgtaatt tatgttccca 6120
attgagtgtg aatgtccaag taatgggtga tgtaatggta caggcaaatg tgactggatt 6180
tccctcaaaa aagtaactat taaacagtyt tgatctcaaa aaaaaaaaaa aaaaaaaaaa 6240
aaaaaaaaaa aaaa

```

&lt;210&gt; 130

&lt;211&gt; 1192

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 130

```

Met Gln Leu Asn Ile Met Pro Thr Lys Lys Arg Leu Ser Ala Gly Arg
  1                      5                      10                      15

```

```

Val Pro Leu Ile Leu Phe Leu Cys Gln Met Ile Ser Ala Leu Glu Val
      20                      25                      30

```

```

Pro Leu Asp Pro Lys Leu Leu Glu Asp Leu Val Gln Pro Pro Thr Ile
      35                      40                      45

```

```

Thr Gln Gln Ser Pro Lys Asp Tyr Ile Ile Asp Pro Arg Glu Asn Ile
      50                      55                      60

```



Val Ile Gln Cys Glu Ala Lys Gly Lys Pro Pro Pro Ser Phe Ser Trp  
 65 70 75 80  
 Thr Arg Asn Gly Thr His Phe Asp Ile Asp Lys Asp Pro Leu Val Thr  
 85 90 95  
 Met Lys Pro Gly Thr Gly Thr Leu Ile Ile Asn Ile Met Ser Glu Gly  
 100 105 110  
 Lys Ala Glu Thr Tyr Glu Gly Val Tyr Gln Cys Thr Ala Arg Asn Glu  
 115 120 125  
 Arg Gly Ala Ala Val Ser Asn Asn Ile Val Val Arg Pro Ser Arg Ser  
 130 135 140  
 Pro Leu Trp Thr Lys Glu Lys Leu Glu Pro Ile Thr Leu Gln Ser Gly  
 145 150 155 160  
 Gln Ser Leu Val Leu Pro Cys Arg Pro Pro Ile Gly Leu Pro Pro Pro  
 165 170 175  
 Ile Ile Phe Trp Met Asp Asn Ser Phe Gln Arg Leu Pro Gln Ser Glu  
 180 185 190  
 Arg Val Ser Gln Gly Leu Asn Gly Asp Leu Tyr Phe Ser Asn Val Leu  
 195 200 205  
 Pro Glu Asp Thr Arg Glu Asp Tyr Ile Cys Tyr Ala Arg Phe Asn His  
 210 215 220  
 Thr Gln Thr Ile Gln Gln Lys Gln Pro Ile Ser Val Lys Val Ile Ser  
 225 230 235 240  
 Ala Lys Ser Ser Arg Glu Arg Pro Pro Thr Phe Leu Thr Pro Glu Gly  
 245 250 255  
 Asn Ala Ser Asn Lys Glu Glu Leu Arg Gly Asn Val Leu Ser Leu Glu  
 260 265 270  
 Cys Ile Ala Glu Gly Leu Pro Thr Pro Ile Ile Tyr Trp Ala Lys Glu  
 275 280 285  
 Asp Gly Met Leu Pro Lys Asn Arg Thr Val Tyr Lys Asn Phe Glu Lys  
 290 295 300  
 Thr Leu Gln Ile Ile His Val Ser Glu Ala Asp Ser Gly Asn Tyr Gln  
 305 310 315 320  
 Cys Ile Ala Lys Asn Ala Leu Gly Ala Ile His His Thr Ile Ser Val  
 325 330 335  
 Arg Val Lys Ala Ala Pro Tyr Trp Ile Thr Ala Pro Gln Asn Leu Val  
 340 345 350  
 Leu Ser Pro Gly Glu Asp Gly Thr Leu Ile Cys Arg Ala Asn Gly Asn  
 355 360 365  
 Pro Lys Pro Arg Ile Ser Trp Leu Thr Asn Gly Val Pro Ile Glu Ile  
 370 375 380

Ala Pro Asp Asp Pro Ser Arg Lys Ile Asp Gly Asp Thr Ile Ile Phe  
 385 390 395 400  
 Ser Asn Val Gln Glu Arg Ser Ser Ala Val Tyr Gln Cys Asn Ala Ser  
 405 410 415  
 Asn Glu Tyr Gly Tyr Leu Leu Ala Asn Ala Phe Val Asn Val Leu Ala  
 420 425 430  
 Glu Pro Pro Arg Ile Leu Thr Pro Ala Asn Thr Leu Tyr Gln Val Ile  
 435 440 445  
 Ala Asn Arg Pro Ala Leu Leu Asp Cys Ala Phe Phe Gly Ser Pro Leu  
 450 455 460  
 Pro Thr Ile Glu Trp Phe Lys Gly Ala Lys Gly Ser Ala Leu His Glu  
 465 470 475 480  
 Asp Ile Tyr Val Leu His Glu Asn Gly Thr Leu Glu Ile Pro Val Ala  
 485 490 495  
 Gln Lys Asp Ser Thr Gly Thr Tyr Thr Cys Val Ala Arg Asn Lys Leu  
 500 505 510  
 Gly Met Ala Lys Asn Glu Val His Leu Glu Ile Lys Asp Ala Thr Trp  
 515 520 525  
 Ile Val Lys Gln Pro Glu Tyr Ala Val Val Gln Arg Gly Ser Met Val  
 530 535 540  
 Ser Phe Glu Cys Lys Val Lys His Asp His Thr Leu Ser Leu Thr Val  
 545 550 555 560  
 Leu Trp Leu Lys Asp Asn Arg Glu Leu Pro Ser Asp Glu Arg Phe Thr  
 565 570 575  
 Val Asp Lys Asp His Leu Val Val Ala Asp Val Ser Asp Asp Asp Ser  
 580 585 590  
 Gly Thr Tyr Thr Cys Val Ala Asn Thr Thr Leu Asp Ser Val Ser Ala  
 595 600 605  
 Ser Ala Val Leu Ser Val Val Ala Pro Thr Pro Thr Pro Ala Pro Val  
 610 615 620  
 Tyr Asp Val Pro Asn Pro Pro Phe Asp Leu Glu Leu Thr Asp Gln Leu  
 625 630 635 640  
 Asp Lys Ser Val Gln Leu Ser Trp Thr Pro Gly Asp Asp Asn Asn Ser  
 645 650 655  
 Pro Ile Thr Lys Phe Ile Ile Glu Tyr Glu Asp Ala Met His Lys Pro  
 660 665 670  
 Gly Leu Trp His His Gln Thr Glu Val Ser Gly Thr Gln Thr Thr Ala  
 675 680 685  
 Gln Leu Lys Leu Ser Pro Tyr Val Asn Tyr Ser Phe Arg Val Met Ala  
 690 695 700

Val Asn Ser Ile Gly Lys Ser Leu Pro Ser Glu Ala Ser Glu Gln Tyr  
 705 710 715 720  
 Leu Thr Lys Ala Ser Glu Pro Asp Lys Asn Pro Thr Ala Val Glu Gly  
 725 730 735  
 Leu Gly Ser Glu Pro Asp Asn Leu Val Ile Thr Trp Lys Pro Leu Asn  
 740 745 750  
 Gly Phe Glu Ser Asn Gly Pro Gly Leu Gln Tyr Lys Val Ser Trp Arg  
 755 760 765  
 Gln Lys Asp Gly Asp Asp Glu Trp Thr Ser Val Val Val Ala Asn Val  
 770 775 780  
 Ser Lys Tyr Ile Val Ser Gly Thr Pro Thr Phe Val Pro Tyr Leu Ile  
 785 790 795 800  
 Lys Val Gln Ala Leu Asn Asp Met Gly Phe Ala Pro Glu Pro Ala Val  
 805 810 815  
 Val Met Gly His Ser Gly Glu Asp Leu Pro Met Val Ala Pro Gly Asn  
 820 825 830  
 Val Arg Val Asn Val Val Asn Ser Thr Leu Ala Glu Val His Trp Asp  
 835 840 845  
 Pro Val Pro Leu Lys Ser Ile Arg Gly His Leu Gln Gly Tyr Arg Ile  
 850 855 860  
 Tyr Tyr Trp Lys Thr Gln Ser Ser Ser Lys Arg Asn Arg Arg His Ile  
 865 870 875 880  
 Glu Lys Lys Ile Leu Thr Phe Gln Gly Ser Lys Thr His Gly Met Leu  
 885 890 895  
 Pro Gly Leu Glu Pro Phe Ser His Tyr Thr Leu Asn Val Arg Val Val  
 900 905 910  
 Asn Gly Lys Gly Glu Gly Pro Ala Ser Pro Asp Arg Val Phe Asn Thr  
 915 920 925  
 Pro Glu Gly Val Pro Ser Ala Pro Ser Ser Leu Lys Ile Val Asn Pro  
 930 935 940  
 Thr Leu Asp Ser Leu Thr Leu Glu Trp Asp Pro Pro Ser His Pro Asn  
 945 950 955 960  
 Gly Ile Leu Thr Glu Tyr Thr Leu Lys Tyr Gln Pro Ile Asn Ser Thr  
 965 970 975  
 His Glu Leu Gly Pro Leu Val Asp Leu Lys Ile Pro Ala Asn Lys Thr  
 980 985 990  
 Arg Trp Thr Leu Lys Asn Leu Asn Phe Ser Thr Arg Tyr Lys Phe Tyr  
 995 1000 1005  
 Phe Tyr Ala Gln Thr Ser Ala Gly Ser Gly Ser Gln Ile Thr Glu Glu  
 1010 1015 1020

Ala Val Thr Thr Val Asp Glu Ala Gly Ile Leu Pro Pro Asp Val Gly  
 1025 1030 1035 1040

Ala Gly Lys Ala Met Ala Ser Arg Gln Val Asp Ile Ala Thr Gln Gly  
 1045 1050 1055

Trp Phe Ile Gly Leu Met Cys Ala Val Ala Leu Leu Ile Leu Ile Leu  
 1060 1065 1070

Leu Ile Val Cys Phe Ile Arg Arg Asn Lys Gly Gly Lys Tyr Pro Val  
 1075 1080 1085

Lys Glu Lys Glu Asp Ala His Ala Asp Pro Glu Ile Gln Pro Met Lys  
 1090 1095 1100

Glu Asp Asp Gly Thr Phe Gly Glu Tyr Ser Asp Ala Glu Asp His Lys  
 1105 1110 1115 1120

Pro Leu Lys Lys Gly Ser Arg Thr Pro Ser Asp Arg Thr Val Lys Lys  
 1125 1130 1135

Glu Asp Ser Asp Asp Ser Leu Val Asp Tyr Gly Glu Gly Val Asn Gly  
 1140 1145 1150

Gln Phe Asn Glu Asp Gly Ser Phe Ile Gly Gln Tyr Ser Gly Lys Lys  
 1155 1160 1165

Glu Lys Glu Pro Ala Glu Gly Asn Glu Ser Ser Glu Ala Pro Ser Pro  
 1170 1175 1180

Val Asn Ala Met Asn Ser Phe Val  
 1185 1190

<210> 131  
 <211> 4253  
 <212> DNA  
 <213> Homo sapiens

<400> 131  
 gcgatcagaa gactgaggca gtgctgcagg tgaacatggc tgtagcctac caatccttca 60  
 ttttggtcga .cttcataatt gaacctgctc actgccaccc agtcgttcac atggcaaacc 120  
 ccagtgttcc ttaagtgggc tgaaaagaat ggaatcctag acctgtcttg ttagagtara 180  
 agctcattga gctgcctgcc cttccatatt gcttgtggac ctatgaatgg tgctctttaa 240  
 aatgtcagtg tagagggact gggaatcctg tattcctgcc ctatcattct gtaactttga 300  
 gaagcatgtg ggctcagtg aractactta tttttagttc tgttagaaca ggatttttaa 360  
 gaaaccatct gaacagaaga aataaagcgg aaggtaagct cagctcatgt gcccatcaag 420  
 ctgcataaat ctccatctgc tctgggaaac attcatggga acagaaggat tcttcttcct 480  
 gagaatgttg ttttcattat ataatcatag atacagcatg tgggtgattt ctgtgtacaa 540  
 atactttacc catgagaaat gtatagctgt tagatatgtg tgggctcaca catatatgca 600  
 atagatgcta tacatagcga tgtgcatgtg tatttgtata tatttatgtt catattttaa 660  
 catatgaaac atgaaataga agtataatat tatttttgta tccaaatagt taacagagca 720  
 gatgccctta gattctaata tggtgttcag tcctgaagat agccaagtta aatataaaaa 780  
 caggagaaga ggaaaaataa aaktccattg agaaggaata gagagaaaaga acrggtcttg 840  
 tgaatgagaa kttcatttgg atcaacacag catttcctar aatgagtctg cactgtgctt 900  
 tttgcarara craatgggct ccgtaggctc tccacggctt ttgatggcar atgakttgct 960  
 tctgtttcar atgaktcaag ctccagtcct ggaaggcaga tgctcctcctc cgatgggtggg 1020  
 ccaccgggcc agtcaracac agacagctcc cgtggaggag agcgacttcg acaccatgcc 1080  
 agacattgag agtgataaaa acatcatccg gaccaagatg ttcctttacc tgtcagattt 1140  
 gtccaggaag gaccggagaa ttgtcagcaa aaaatataaa atttattttt ggaacatcat 1200

```

caccattgct gtgttttacg cgctgcccgat gatccagctg gtcattacct atcagacagt 1260
ggtaaatgtc actggcaacc aggacatctg ttactacaac ttcctctgtg ctcacccctt 1320
gggcgctcctg agtgccttca acaacattct cagcaatctg ggccacgtgc ttctgggctt 1380
cctcttcctg ctgatagtct tgcgccgcga catcctccat cggagagccc tggaaagccaa 1440
ggacatccttt gctgtggaag acgggattcc caaacacttt ggtctcttct acgctatggg 1500
cattgcattg atgatggaag ggggtgctcag tgcttgctac catgtctgcc ctaattattc 1560
caacttccaa ttcgacacct ccttcattgta catgatcgct ggcctgtgca tgcgtgaagt 1620
ctatcagacc cgccaccagc acatcaatgc cagcgccctac tctgcctatg cctcctttgc 1680
tgtggtcacg atggtcaccg tccttggagt ggtgtttgga aaaaatgacg tatggttctg 1740
ggtcatcttc tctgcaatcc acgttctggc ctcgctagcc ctcagcaccg aaatatatta 1800
tatgggtcgt ttcaagatag atgtgtctga cacagatttg ggaattttcc ggcgggctgc 1860
catggtgttc tacacagact gtatccagca gtgtagccga cctctatata tggatagaat 1920
ggtgttgctg gttgtgggga atctggttaa ctggtccttc gccctctttg gattgatata 1980
ccgccccagg gactttgctt cctacatgct gggcatcttc atctgtaacc ttttgcgtga 2040
cctggccttt tacatcatca tgaagctccg cagctctgaa aaggctcctc cagtcccgtc 2100
cttctgcacg gtggccaccg ctgtgatgtg ggtgcccgcg ctatatTTTT tcttccagaa 2160
tctcagcagc tgggagggaa ctccggccga atcccgggag aagaaccgcg agtgcattct 2220
gctggatttc ttcgatgacc atgacatctg gcacttcctc tctgtactct cctgtttttt 2280
ctcattcttg gttttgttaa ctttggatga tgacctgat gtggttcgga gagaccagat 2340
ccctgtcttc tgaacctcca acattaagag aggggaggga gcatcaatc ttggtgctgt 2400
ttcacaaaaa ttacagtgc cacagcaaag taaccactgc cagatgctcc actcaccctc 2460
tgtagagcca actctgcatt cacacaggaa ggagaggggc tgcgggagat ttaaacctgc 2520
aagaaaggag gcagaagggg agccatgttt tgaggacaga cgaaacctg aggagctgag 2580
aaacacttgc tccttccatc tgcagctttg ggagtgaac agggataggc actgcatcca 2640
agtcaactca ccatcttggg gtccctccca ccctcacgga gacttgccag caatggcaga 2700
atgctgctgc acacttcctt ccagttgtca ccctgccag aaaggccagc agcttggact 2760
tcctgccag aaactgtgtt ggcccccttc acacctctgc aacacctgct gctccagcaa 2820
gaggatgtga ttcttttaga tatggcgggg aggtgacccc aggcctgccc ctactgggat 2880
agatgtttta atggcaccag ctagtacct cccagaagaa actctgtata tttccccag 2940
gtttctgatg ccatcagaag ggctcaggag tgggggttgt cacacattcc tcttaacaag 3000
taactgtcac tgggaccgag tcctgggtgc ttacataatc cttcgtgtct tcatctcact 3060
gacctgtgtg gacctcatca ctctgactct gccttcttgg aaaggccctg tactccaca 3120
gatgtctggc cagcttcaag gcagaaggaa aaacaggaaa agctctttta acagcagcag 3180
gaacaagaga aatgactaac catactaaaa gactggtaac agcagcagca gccagacagg 3240
cctcacctta aggacttggg ctgccagagc aaattcagca gagcttattt ggcctcccat 3300
tcacacagct cagttctgtg cccacatcac ctttggggaa gaaatcagca ttctaatacag 3360
ggacactact tcaggagtcc tccacagcga gtccgtcatc tgtcacttta tgtagatcag 3420
ggttctagac ttcttccttg aggttctcag aagcagctct caggatgaac gtattgtcct 3480
cttccccctt tcttgcaaa gtcacagcta atctaattgt gtctctcggt tgcacctgac 3540
attctctccc cagtaagggt ttggcaagct cagcatctgg gttccactct cacactgtct 3600
ggcagctctg tgtctgagaa gttctacatt gaccaggccc ccttgttggc tggagtatga 3660
cgtaatacga aatatagcgt ataaatgtgc acatgcgtat gtatttgcct gtgaaattaa 3720
agtcaacctt tgctctgctt ttcttgatca ttctgttagag aaatggatca ggcatttttt 3780
taaatattta ttctttctct aaactatttg cattgtgttc aaaaacccat tttagaagtt 3840
tgaacagcaa gcttttcttg attttaaaaa cacaaagttg ctttcaatga aatattttgt 3900
gattttttta aagtccecaa atgtgtactt agccttctgt tatctcttat tctttaagca 3960
gtgttggctt ccattgacca tatgaaggcc accaattaaa tgggtgtgtt aatccaacat 4020
gtaaaaaact ttttggcagg gcacagtggc tcacgcctgt aatcccaaca ctttgggagg 4080
ctgaggcagg aggatcamtt gagcccagga gattgacgcc gcagtgaact atgattgtgc 4140
ccctgcactc cagcctggat gacagagtga gaccccatyt yttaaaaaat aaaaaaaaat 4200
aaaaatttga acctgtttca aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaa 4253

```

&lt;210&gt; 132

&lt;211&gt; 479

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (13)..(14)

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (21)

&lt;400&gt; 132

Met Gly Ser Val Gly Ser Pro Arg Leu Leu Met Ala Xaa Xaa Leu Ser  
 1 5 10 15

Leu Phe Gln Met Xaa Gln Ala Pro Val Leu Glu Gly Arg Cys Pro Pro  
 20 25 30

Pro Met Val Gly His Arg Ala Ser Gln Thr Gln Thr Ala Pro Val Glu  
 35 40 45

Glu Ser Asp Phe Asp Thr Met Pro Asp Ile Glu Ser Asp Lys Asn Ile  
 50 55 60

Ile Arg Thr Lys Met Phe Leu Tyr Leu Ser Asp Leu Ser Arg Lys Asp  
 65 70 75 80

Arg Arg Ile Val Ser Lys Lys Tyr Lys Ile Tyr Phe Trp Asn Ile Ile  
 85 90 95

Thr Ile Ala Val Phe Tyr Ala Leu Pro Val Ile Gln Leu Val Ile Thr  
 100 105 110

Tyr Gln Thr Val Val Asn Val Thr Gly Asn Gln Asp Ile Cys Tyr Tyr  
 115 120 125

Asn Phe Leu Cys Ala His Pro Leu Gly Val Leu Ser Ala Phe Asn Asn  
 130 135 140

Ile Leu Ser Asn Leu Gly His Val Leu Leu Gly Phe Leu Phe Leu Leu  
 145 150 155 160

Ile Val Leu Arg Arg Asp Ile Leu His Arg Arg Ala Leu Glu Ala Lys  
 165 170 175

Asp Ile Phe Ala Val Glu Tyr Gly Ile Pro Lys His Phe Gly Leu Phe  
 180 185 190

Tyr Ala Met Gly Ile Ala Leu Met Met Glu Gly Val Leu Ser Ala Cys  
 195 200 205

Tyr His Val Cys Pro Asn Tyr Ser Asn Phe Gln Phe Asp Thr Ser Phe  
 210 215 220

Met Tyr Met Ile Ala Gly Leu Cys Met Leu Lys Leu Tyr Gln Thr Arg  
 225 230 235 240

His Pro Asp Ile Asn Ala Ser Ala Tyr Ser Ala Tyr Ala Ser Phe Ala  
 245 250 255

Val Val Ile Met Val Thr Val Leu Gly Val Val Phe Gly Lys Asn Asp  
 260 265 270

Val Trp Phe Trp Val Ile Phe Ser Ala Ile His Val Leu Ala Ser Leu  
 275 280 285

Ala Leu Ser Thr Gln Ile Tyr Tyr Met Gly Arg Phe Lys Ile Asp Val  
 290 295 300

Ser Asp Thr Asp Leu Gly Ile Phe Arg Arg Ala Ala Met Val Phe Tyr  
 305 310 315 320

Thr Asp Cys Ile Gln Gln Cys Ser Arg Pro Leu Tyr Met Asp Arg Met  
 325 330 335

Val Leu Leu Val Val Gly Asn Leu Val Asn Trp Ser Phe Ala Leu Phe  
 340 345 350

Gly Leu Ile Tyr Arg Pro Arg Asp Phe Ala Ser Tyr Met Leu Gly Ile  
 355 360 365

Phe Ile Cys Asn Leu Leu Leu Tyr Leu Ala Phe Tyr Ile Ile Met Lys  
 370 375 380

Leu Arg Ser Ser Glu Lys Val Leu Pro Val Pro Leu Phe Cys Ile Val  
 385 390 395 400

Ala Thr Ala Val Met Trp Ala Ala Ala Leu Tyr Phe Phe Phe Gln Asn  
 405 410 415

Leu Ser Ser Trp Glu Gly Thr Pro Ala Glu Ser Arg Glu Lys Asn Arg  
 420 425 430

Glu Cys Ile Leu Leu Asp Phe Phe Asp Asp His Asp Ile Trp His Phe  
 435 440 445

Leu Ser Ala Thr Ala Leu Phe Phe Ser Phe Leu Val Leu Leu Thr Leu  
 450 455 460

Asp Asp Asp Leu Asp Val Val Arg Arg Asp Gln Ile Pro Val Phe  
 465 470 475

<210> 133  
 <211> 462  
 <212> DNA  
 <213> Homo sapiens

<400> 133  
 gtggaaggag tggataataa aatgagtcag tgcaccagct ccaccattcc tagctcaagt 60  
 caagagaaag accctaaaat taagacagag acaagtgaag agggatctgg agacttggat 120  
 aatctagatg ctattcttgg tgatctgact agttctgact ttacaataa ttccatatcc 180  
 tcaaatggta gtcattctgg gactaagcaa caggtgtttc aaggaactaa ttctctgggt 240  
 ttgaaaagtt cacagtctgt gcagtctatt cgtcctccat ataaccgagc agtgtctctg 300  
 gatagccctg tttctgttgg ctcaagtcct ccagtaaaaa atatcagtgc tttccccatg 360  
 ttaccaaagc aacccatggt ggggtgggaat ccaagaatga tggatagtca rgaaaattat 420  
 ggctcaagta tgggagactg gggcttacca aactcaaagg cc 462

<210> 134  
 <211> 147  
 <212> PRT  
 <213> Homo sapiens

<400> 134  
 Met Ser Gln Cys Thr Ser Ser Thr Ile Pro Ser Ser Ser Gln Glu Lys  
 1 5 10 15

Asp Pro Lys Ile Lys Thr Glu Thr Ser Glu Glu Gly Ser Gly Asp Leu  
                   20                  25                  30  
 Asp Asn Leu Asp Ala Ile Leu Gly Asp Leu Thr Ser Ser Asp Phe Tyr  
                   35                  40                  45  
 Asn Asn Ser Ile Ser Ser Asn Gly Ser His Leu Gly Thr Lys Gln Gln  
                   50                  55                  60  
 Val Phe Gln Gly Thr Asn Ser Leu Gly Leu Lys Ser Ser Gln Ser Val  
                   65                  70                  75                  80  
 Gln Ser Ile Arg Pro Pro Tyr Asn Arg Ala Val Ser Leu Asp Ser Pro  
                   85                  90                  95  
 Val Ser Val Gly Ser Ser Pro Pro Val Lys Asn Ile Ser Ala Phe Pro  
                   100                  105                  110  
 Met Leu Pro Lys Gln Pro Met Leu Gly Gly Asn Pro Arg Met Met Asp  
                   115                  120                  125  
 Ser Gln Glu Asn Tyr Gly Ser Ser Met Gly Asp Trp Gly Leu Pro Asn  
                   130                  135                  140  
 Ser Lys Ala  
 145

<210> 135  
 <211> 119  
 <212> DNA  
 <213> Homo sapiens

<400> 135  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 60  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 119

<210> 136  
 <211> 3316  
 <212> DNA  
 <213> Homo sapiens

<400> 136  
 ggtaagatgg cggtctgtgag tctgctggctc ggcgacttgg tgtgggggaa actcggccga 60  
 tatcctcctt ggccaggaaa gattgttaat ccaccaaagg acttgaagaa acctcgccga 120  
 aagaaatgct tctttgtgaa atttttttga acagaagatc atgcctggat caaagtggaa 180  
 cagctgaagc catatcatgc tcataaagag gaaatgataa aaattaacaa gggtaaacga 240  
 ttccagcaag cggtagatgc tgtcgaagag ttccctcagga gagccaaagg gaaagaccag 300  
 acgtcatccc acaattcttc tgatgacaag aatcgacgta attccagtga ggagagaagt 360  
 aggccaaact caggtgatga gaagcgcaaa cttagcctgt ctgaaggga ggtgaagaag 420  
 aacatgggag aaggaaagaa gaggggtgtct tcaggctctt cagagagagg ctccaaatcc 480  
 cctctgaaaa gagcccaaga gcaaagtccc cggaagcggg gtcggccccc aaaggatgag 540  
 aaggatctca ccatcccgga gtctagtacc gtgaagggga tgatggccgg accgatggcc 600  
 gcgtttaaat ggcagccaac cgcaagcgag cctgtttaaag atgcagatcc tcatttccat 660  
 catttctgc taagccaaac agagaagcca gctgtctgtt accaggcaat cacgaagaag 720  
 ttgaaaatat gtgaagagga aactggctcc acctccatcc aggcagctga cagcacagcc 780  
 gtgaatggca gcatcacacc cacagacaaa aagataggat ttttgggcct tgggtctcatg 840  
 ggaagtggaa tcgtctccaa cttgctaaaa atgggtcaca cagtgactgt ctggaaccgc 900  
 actgcagaga aagagggggc ccgtctggga agaaccctcg ctcaacctgc 960



```

gacatcactt tcgcctgcgt gtcggatccc aaggcggcca aggacctggt gctgggcccc 1020
agtgggtgtc tgcaagggat ccgccctggg aagtgtctacg tggacatgtc aacagtggac 1080
gctgacaccg tcaactgagct ggcccagggtg atttgtgtcca gggggggggcg ctttctggaa 1140
gcccccgctc cagggaaatca gcagctgtct aatgacggga tgttggtgat cttagcggct 1200
ggagacaggg gcttatatga ggactgcagc agctgcttcc aggcgatggg gaagacctcc 1260
ttcttctctag gtgaagtggg caatgcagcc aagatgatgc tgatcgtgaa catggtccaa 1320
gggagcttca tggccactat tggcaggggg ctgaccttgg cccagggtgac aggccagtcc 1380
cagcagacac tcttggaacat cctcaatcag ggacagttgg ccagcatctt cctggaccag 1440
aagtgccaaa atatcctgca aggaaacttt aagcctgatt tctacctgaa atacattcag 1500
aaggatctcc gcttagccat tgcgctgggt gatgcggtca accatccgac tcccatggca 1560
gctgcagcaa atgaggtgta caaaagagcc aaggcgctgg accagtctga caacgatatg 1620
tccgcgctgt accgagccta catacactaa gctgtcgaca ccccgccctc acccctccaa 1680
tccccctct gacccccctt tcctcacatg ggttcggggg cctgggagtt cattctggac 1740
cagcccacct atctccctt ccttttatac agactttgag acttgccatc agcacagcac 1800
acagcagcac ccttcccctg aggcgggtgg gagggggaca agtgtcagca ggattggcgt 1860
gtgggaaagc tcttgagctg ggcactggcc ccccgagcga ggtggctgtg tgttcacaca 1920
cacacacaca cacacacaca cacaggctct cgccccagga tagaagctgc ccagaaactg 1980
ctgcctggct ttttttcttc cgagcttgtc ttatctcaaa ccccttccag tcaaggaact 2040
agaatcagca acgagagttg gaagccttcc cacagcttcc cccagagcga agaggctgta 2100
gtcatgtccc catccccac tggattccct acaaggagag gccttggggc cagatgagcc 2160
agtacagact ccagacagag gggcccttgg ggcctccaa cctcaggtga tgagctgaga 2220
aagatgttca cgtctaagcg tccagtgtgc acccagcgct ccatagacgc ctttgtgaac 2280
tgaaaagaga ctggcagagt cccgagaaga tggggccctg gctttccagg gagtgcagca 2340
agcagccggc ctgcagaccc agcctgacca acgatgagca tttcttaggc tcagctcttg 2400
atacggaaac gagtgtcttc actccagcca gcatcatggt cttcgggtgt tcccggggcc 2460
ggggtctgtc gggagggaag agaactgggc ctgacctacc tgaactgact ggccctccga 2520
ggtgggtctg ggacatccta gaggccctac atttgtctt ggatagggga ccgggggggg 2580
cttgggaatgt tgcaaaaaaa aaagtaccc aagggatgtc agttttttat cctctgcat 2640
gggttggtatt ttccaaaatc ataatttgca gaagggaagg cagcatttac gatgcaatat 2700
gtaattatat atagggtggc cacactaggg cggggtcctt ccccccctac agctttggcc 2760
cctttcagag attagaaact ggggttagagg attgcagaag acgagtgggg ggagggcagg 2820
gaagatgcct gtcgggtttt tagcacagtt catttctact ggattttgaa gcatttctgt 2880
ctggacacaa agcctgttct agtctggcg gaacacactg ggggtggggg cgggggaaga 2940
tgcggtaatg aaaccggtta gtcaattttg tcttaatat gttgacaatt ctgtaaagtt 3000
cctttttatg aatatttctg ttttaagctat ttcaccttct ttttgaaatc cttccctttt 3060
aaggagaaaa tgtgacactt gtgaaaaagc ttgtaagaaa gcccctccct tttttcttta 3120
aacctttaaa tgacaaatct aggtaatata ggttgtaaat ttttattttt gctttgtttt 3180
taatgaacat ttgtctttca gaataggatt gtgtgataat gtttaaatgg caaaaacaaa 3240
acatgatttt gtgcaattaa caaagctact gcaagaaaaa taaaacactt cttggtaaca 3300
caaaaaaaaa aaaaaa 3316

```

&lt;210&gt; 137

&lt;211&gt; 547

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 137

```

Met Ala Ala Val Ser Leu Arg Leu Gly Asp Leu Val Trp Gly Lys Leu
  1             5             10             15

```

```

Gly Arg Tyr Pro Pro Trp Pro Gly Lys Ile Val Asn Pro Pro Lys Asp
          20             25             30

```

```

Leu Lys Lys Pro Arg Gly Lys Lys Cys Phe Phe Val Lys Phe Phe Gly
  35             40             45

```

```

Thr Glu Asp His Ala Trp Ile Lys Val Glu Gln Leu Lys Pro Tyr His
  50             55             60

```

```

Ala His Lys Glu Glu Met Ile Lys Ile Asn Lys Gly Lys Arg Phe Gln

```

65		70		75		80									
Gln	Ala	Val	Asp	Ala	Val	Glu	Glu	Phe	Leu	Arg	Arg	Ala	Lys	Gly	Lys
				85					90					95	
Asp	Gln	Thr	Ser	Ser	His	Asn	Ser	Ser	Asp	Asp	Lys	Asn	Arg	Arg	Asn
			100					105					110		
Ser	Ser	Glu	Glu	Arg	Ser	Arg	Pro	Asn	Ser	Gly	Asp	Glu	Lys	Arg	Lys
		115					120					125			
Leu	Ser	Leu	Ser	Glu	Gly	Lys	Val	Lys	Lys	Asn	Met	Gly	Glu	Gly	Lys
	130					135					140				
Lys	Arg	Val	Ser	Ser	Gly	Ser	Ser	Glu	Arg	Gly	Ser	Lys	Ser	Pro	Leu
145					150					155					160
Lys	Arg	Ala	Gln	Glu	Gln	Ser	Pro	Arg	Lys	Arg	Gly	Arg	Pro	Pro	Lys
				165					170					175	
Asp	Glu	Lys	Asp	Leu	Thr	Ile	Pro	Glu	Ser	Ser	Thr	Val	Lys	Gly	Met
			180					185					190		
Met	Ala	Gly	Pro	Met	Ala	Ala	Phe	Lys	Trp	Gln	Pro	Thr	Ala	Ser	Glu
		195					200					205			
Pro	Val	Lys	Asp	Ala	Asp	Pro	His	Phe	His	His	Phe	Leu	Leu	Ser	Gln
	210					215					220				
Thr	Glu	Lys	Pro	Ala	Val	Cys	Tyr	Gln	Ala	Ile	Thr	Lys	Lys	Leu	Lys
225					230					235					240
Ile	Cys	Glu	Glu	Glu	Thr	Gly	Ser	Thr	Ser	Ile	Gln	Ala	Ala	Asp	Ser
				245					250					255	
Thr	Ala	Val	Asn	Gly	Ser	Ile	Thr	Pro	Thr	Asp	Lys	Lys	Ile	Gly	Phe
			260					265					270		
Leu	Gly	Leu	Gly	Leu	Met	Gly	Ser	Gly	Ile	Val	Ser	Asn	Leu	Leu	Lys
	275					280						285			
Met	Gly	His	Thr	Val	Thr	Val	Trp	Asn	Arg	Thr	Ala	Glu	Lys	Glu	Gly
	290					295					300				
Ala	Arg	Leu	Gly	Arg	Thr	Pro	Ala	Glu	Val	Val	Ser	Thr	Cys	Asp	Ile
305					310					315					320
Thr	Phe	Ala	Cys	Val	Ser	Asp	Pro	Lys	Ala	Ala	Lys	Asp	Leu	Val	Leu
				325					330					335	
Gly	Pro	Ser	Gly	Val	Leu	Gln	Gly	Ile	Arg	Pro	Gly	Lys	Cys	Tyr	Val
			340					345					350		
Asp	Met	Ser	Thr	Val	Asp	Ala	Asp	Thr	Val	Thr	Glu	Leu	Ala	Gln	Val
		355					360					365			
Ile	Val	Ser	Arg	Gly	Gly	Arg	Phe	Leu	Glu	Ala	Pro	Val	Ser	Gly	Asn
	370					375					380				
Gln	Gln	Leu	Ser	Asn	Asp	Gly	Met	Leu	Val	Ile	Leu	Ala	Ala	Gly	Asp

385	390	395	400
Arg Gly Leu Tyr	Glu Asp Cys Ser Ser Cys Phe Gln Ala Met Gly Lys		
	405	410	415
Thr Ser Phe Phe Leu Gly Glu Val Gly Asn Ala Ala Lys Met Met Leu			
	420	425	430
Ile Val Asn Met Val Gln Gly Ser Phe Met Ala Thr Ile Ala Glu Gly			
	435	440	445
Leu Thr Leu Ala Gln Val Thr Gly Gln Ser Gln Gln Thr Leu Leu Asp			
	450	455	460
Ile Leu Asn Gln Gly Gln Leu Ala Ser Ile Phe Leu Asp Gln Lys Cys			
	465	470	475
Gln Asn Ile Leu Gln Gly Asn Phe Lys Pro Asp Phe Tyr Leu Lys Tyr			
	485	490	495
Ile Gln Lys Asp Leu Arg Leu Ala Ile Ala Leu Gly Asp Ala Val Asn			
	500	505	510
His Pro Thr Pro Met Ala Ala Ala Ala Asn Glu Val Tyr Lys Arg Ala			
	515	520	525
Lys Ala Leu Asp Gln Ser Asp Asn Asp Met Ser Ala Val Tyr Arg Ala			
	530	535	540
Tyr Ile His			
545			

<210> 138  
 <211> 1097  
 <212> DNA  
 <213> Homo sapiens

<400> 138  
 attggttcaa gaagaaaatt tgagcccagg caccctaaaca ccttcaaatg ataaagcaag 60  
 tatgttgcaa gaatactcca aatacctcca acaggctttt gaaaaatcca ctaatgcaag 120  
 ttttactctt ggacacggtt tccaatttgt cagtttgtct tcacctctcc acaaccacac 180  
 tttgtttcca gaaaaacaaa tatacactac gtctcctttg gagtgtggtt tcggccaatc 240  
 tgttacctca gtgttgccat cttcattgcc aaagcctcct tttgggatgt tgtttggatc 300  
 tcagccagggt ctttatttgt ctgcttttga tgctacacat cagcagttga caccttccca 360  
 ggagctggat gatctgatag attctcagaa gaacttagag acttcatcag cttccagtc 420  
 ctcatctcag aaattgacta gccagaagga acagaaaaac ttagagtctt caacaggctt 480  
 tcagattcca tctcaggagt tagctagcca gatagatcct cagaaagaca tagagcctag 540  
 aacaacgtat cagattgaga actttgcaca agcgttttgt tctcagttta agtcgggcag 600  
 cagggtgcca atgaccttta tactaactc taatggagaa gtggaccata gagtaaggac 660  
 ttcagtgtca gattttctcag ggtatacaaa tatgatgtct gatgtaagt agccatgtag 720  
 tacaagagta aagacacca ccagccagag ttacaggtaa ggtcccaaaa gtggccaggc 780  
 tggaggtttt ttaatgtaat tttgttttat tttgagaaca ctgccattgg aatgttttta 840  
 cagcatccta ttaagaataa tgtgatgccc tttcaatgca acttttcata tttagtttat 900  
 tttgttagcg tgattttagc tctgtttgta ttatgatttt taatcaaaat caatagatta 960  
 aaaatagttt gacattcaaa gtgacaatgt ttagcaatca aatttcatg tatagattgt 1020  
 cagggaatag cccaaatgtt ttaaacgcaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1080  
 aaaaaaaaaa aaaaaaa 1097

<210> 139

&lt;211&gt; 232

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 139

Met Leu Gln Glu Tyr Ser Lys Tyr Leu Gln Gln Ala Phe Glu Lys Ser  
 1 5 10 15

Thr Asn Ala Ser Phe Thr Leu Gly His Gly Phe Gln Phe Val Ser Leu  
 20 25 30

Ser Ser Pro Leu His Asn His Thr Leu Phe Pro Glu Lys Gln Ile Tyr  
 35 40 45

Thr Thr Ser Pro Leu Glu Cys Gly Phe Gly Gln Ser Val Thr Ser Val  
 50 55 60

Leu Pro Ser Ser Leu Pro Lys Pro Pro Phe Gly Met Leu Phe Gly Ser  
 65 70 75 80

Gln Pro Gly Leu Tyr Leu Ser Ala Leu Asp Ala Thr His Gln Gln Leu  
 85 90 95

Thr Pro Ser Gln Glu Leu Asp Asp Leu Ile Asp Ser Gln Lys Asn Leu  
 100 105 110

Glu Thr Ser Ser Ala Phe Gln Ser Ser Ser Gln Lys Leu Thr Ser Gln  
 115 120 125

Lys Glu Gln Lys Asn Leu Glu Ser Ser Thr Gly Phe Gln Ile Pro Ser  
 130 135 140

Gln Glu Leu Ala Ser Gln Ile Asp Pro Gln Lys Asp Ile Glu Pro Arg  
 145 150 155 160

Thr Thr Tyr Gln Ile Glu Asn Phe Ala Gln Ala Phe Gly Ser Gln Phe  
 165 170 175

Lys Ser Gly Ser Arg Val Pro Met Thr Phe Ile Thr Asn Ser Asn Gly  
 180 185 190

Glu Val Asp His Arg Val Arg Thr Ser Val Ser Asp Phe Ser Gly Tyr  
 195 200 205

Thr Asn Met Met Ser Asp Val Ser Glu Pro Cys Ser Thr Arg Val Lys  
 210 215 220

Thr Pro Thr Ser Gln Ser Tyr Arg  
 225 230

&lt;210&gt; 140

&lt;211&gt; 775

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 140

gtgtcacata ccactcttgt aggtgtcctc aataatcccc ttttcccaca aaatacacag 60  
 ggtgtattat ctttctcttt attcaccccc actttgtctga actgaagtta attacatagc 120  
 ctttcttcta acctccttag taatgaacct tcacataaag tgtatttaca gcgtctgtgg 180

```

tagccagccc ttccctcctct actttctagg aggggatagc caataactag gaatttaagt 240
acagattttt tttttctttg aaataaatgg ccagagtttc tccatttttag aattttgttg 300
tcctccttaa tcactgtctt acctagtcac tactcaatct gcagaaactt cataaaggaa 360
aagtgtctga ttgtttttac aaataacagt ttgtaggga aatatgacaa acctcaacta 420
tgaggagtgt ccacaatata aaattttgaa aaaacattac atagtataa tatcatactt 480
ggtgtttagg cttgttgctt ccccatatca gaggcattct atgatttatc ttttgtaatt 540
gctgtgaact tttttaata agccatttag tgtgaaattg tcatgtatca aatggctatt 600
ggaaatggac ttactcaat tttaattcca ctgcactcta gccggagtga cagagtaaga 660
ctctgtctca aaaataaata aataaataaa taaataaata aataaataaa taaataaaaa 720
ataataatac aagttttcat aaggaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 775

```

&lt;210&gt; 141

&lt;211&gt; 44

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 141

```

Met Thr Asn Leu Asn Tyr Gly Ser Cys Pro Gln Tyr Lys Ile Leu Lys
  1              5              10              15

```

```

Lys His Tyr Ile Val Ile Ile Ser Tyr Leu Val Val Arg Leu Val Ala
          20              25              30

```

```

Ser Pro His Gln Arg His Leu Met Ile Tyr Leu Leu
          35              40

```

&lt;210&gt; 142

&lt;211&gt; 2060

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 142

```

gaaaaagaag acaaagctca ccttcaggcg gaggtgcagc acctgcgaga ggacaacctg 60
aggctacagg aggagtccca gaacgcctcg gacaagctga agaagttcac agaatgggtc 120
ttcaacacca tagacatgag ctagggaagg ctgaggagga caggagaagg gccagacac 180
tcctccagtg gagtgcctg cagcccttat tccctccata gaaagcatcc tcagagcacc 240
ttccctggct tcctactctg cccctttctg gggagtgcac aacacaatag ttgcagatca 300
acaatcatca cctgcctttt gtagaaaaga aaaacaaaaa aagtaaataa aaatttttaa 360
cagtaaaata aaagttaaac tgctaaaatg tgaatgtctt tatttttttg cacaatatct 420
ttatctgtta tgtatttaag aagaaactgg gccttgacc agggcgcccc ctggcccatc 480
cgctcttatt cccatcagct ttcttatcaa cttcaggtaa cccaagcttt cccttgttat 540
tctaacaat atcattatc ctgaaaaag aatgttttta taactgttt ggggagtaga 600
gagggatatt tccttacctt ctccctaaa atgcttgagg agggagtgtc ttgagaaaa 660
tgcctacctc ccttgaatga ctctgcatg agctagtgt gtctgtacct gtccctccaga 720
gatcagcagg accggagtta aatatttaac agcaagtctg taaaccagag cagctctgac 780
agtgcctgca ggccacaccc ctctcagtc ctgcattgtg aggtcatttc ctgcttctcc 840
ctttccccag gaagatgggt ccacttggtc tgcaagactc tttttgttt ggcttaattg 900
agccccacta aattggaatc aatctctctt acagcttctt ggctccaaac attaatgtat 960
ttcagaatcc ccccaacta aaaccttatc tgtctgcatt ttgaatgcat ttgggtcaaa 1020
agtatacgtt ttaaagattt ttaaagataa aaatgtggca caactgggtt ttttagcttg 1080
ctgaaaatga ccatatctct aaattaatct ttctctccag agcaagactt caccagtatt 1140
tgtaactagg agaagctaag tgaatgttta attgtgaatt ttaatcattg cttgttagga 1200
ataatgactg tgatactaga atgggtttt gaaacctgca tgtccagtg tgaattttca 1260
gcacggcatt ttctgcatcc ttctatggcc atccaaagga ttccgctgca gaaattattg 1320
atgtgtctatt tttgtgtct tgtgatgcag gctgctttgg gccctgggt cactcttcca 1380
aggctgctgt agagcacaga gacatggggc tggccagtgt tgactgacct gaggagaccc 1440
ctttgtttgt tgccttcata actgtcacta aaccgacccc tctgcccttt cagtggcaac 1500
tctggtctaa gggaacatcc agcactctag cggcatctga ttggaagttc cctcacccaa 1560
gtaatctcaa ttccttctct tctccatccc tgaaagaaac aggatggatt ttcctctctt 1620

```

```

ctccctgcta cattcactac cagattttta tgctacagtt tcattcttga ttgtgatttc 1680
tccatggaat tttttttttc tggtagacatt tctatcatgg aaataggaag atttcggagt 1740
gctttgtgaa gatttcaatt gtctgtctct ttctctcttt gacttgatg aaggagattg 1800
tacattgcct gatattctct tgtaaatgag aaatattgct aacatccaag cattctgaag 1860
tcttgcttat ccttctgagt ttagttctca ttttgtttta cattttgttt ggggacttgg 1920
ggcaagctat ttattagagt tttgcaacag agttcttgg tgaagcctct aaagactacc 1980
tgtaaaattc aaagaataaa attcatttta aacgctcttt taaaaaaaaa aaaaaaaaaa 2040
aaaaaaaaa aaaaaaaaaa 2060

```

<210> 143  
 <211> 62  
 <212> PRT  
 <213> Homo sapiens

<400> 143  
 Met Thr Val Ile Leu Glu Trp Ala Phe Glu Thr Cys Met Ser Gln Cys  
   1                  5                  10                  15  
 Glu Ile Ser Ala Arg His Phe Leu His Pro Phe Met Ala Ile Gln Arg  
           20                  25                  30  
 Ile Pro Leu Gln Lys Leu Leu Met Cys Tyr Phe Cys Cys Leu Val Met  
       35                  40                  45  
 Gln Ala Ala Leu Gly Pro Trp Val Thr Leu Pro Arg Leu Leu  
       50                  55                  60

<210> 144  
 <211> 1160  
 <212> DNA  
 <213> Homo sapiens

<400> 144  
 gattattttc agtaggcaga catctaattcg gaatcttget cttgttgccc aggctggagt 60  
 gtaatggcac aatctcggct tactgcaacc tctgctcct ggattcaagt gattctctcg 120  
 cctcagcctc ccaagtagct gggattacag ccctgaaaac cactcgcttg cagagcgctg 180  
 gatcagcaat gcctactagt tcttcattca aacaccggat taaagagcag gaagactaca 240  
 tccgagattg gactgctcat cgagaagaga tagccaggat cagccaagat cttgctctca 300  
 ttgctcggga gatcaacgat gtagcaggag agatagattc agtgacttca tcaggcactg 360  
 cccctagtac cacagtaagc actgctgcca ccacccttg ctctgccata gacactagag 420  
 aagagttggt tgatcgtgtt tttgatgaaa gcctcaactt ccaaaagatt cctccattag 480  
 ttcatcccaa aacaccagaa ggaaacaacg gtcgatctgg tgatccaaga cctcaagcag 540  
 cagagcctcc cgatcactta acaattacaa ggcggagAAC ctggagcagg gatgaagtca 600  
 tgggagataa tctgctgctg tcatccgtct ttcagttctc targaagata agacaatcta 660  
 tagataagac agctggaaag atcagaatat tatttaaaga caaagatcgg aattgggatg 720  
 acatagaaag caaattaaga gccgaaagtg aagtccctat tgtgaaaacc tcgagcatgg 780  
 agatttcttc tatcttacag gaactgaaaa gagtagaaaa gcagctacaa gcaatcaatg 840  
 ctatgattga tcctgatgga actttggagg ctctgaacaa catgggattt cccagtgcga 900  
 tggtgccatc tccaccgaaa cagaagtcca gccctgtgaa taaccaccac agcccgggtc 960  
 agacaccaac acttggccaa ccagaagcta gggctcttca tcctgctgct gtttcagccg 1020  
 cagctgaatt tgagaatgct gaatctgagg ctgatttcag tatacatttc aatagagtca 1080  
 accctgatgg ggaagaggaa gatgttacag taacataaat gactttctct tgattgttga 1140  
 aaaaaaaaaa aaaaaaaaaa 1160

<210> 145  
 <211> 309  
 <212> PRT  
 <213> Homo sapiens

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (152)

&lt;400&gt; 145

```

Met Pro Thr Ser Ser Ser Phe Lys His Arg Ile Lys Glu Gln Glu Asp
  1             5             10             15

Tyr Ile Arg Asp Trp Thr Ala His Arg Glu Glu Ile Ala Arg Ile Ser
      20             25             30

Gln Asp Leu Ala Leu Ile Ala Arg Glu Ile Asn Asp Val Ala Gly Glu
  35             40             45

Ile Asp Ser Val Thr Ser Ser Gly Thr Ala Pro Ser Thr Thr Val Ser
  50             55             60

Thr Ala Ala Thr Thr Pro Gly Ser Ala Ile Asp Thr Arg Glu Glu Leu
  65             70             75             80

Val Asp Arg Val Phe Asp Glu Ser Leu Asn Phe Gln Lys Ile Pro Pro
      85             90             95

Leu Val His Ser Lys Thr Pro Glu Gly Asn Asn Gly Arg Ser Gly Asp
      100             105             110

Pro Arg Pro Gln Ala Ala Glu Pro Pro Asp His Leu Thr Ile Thr Arg
      115             120             125

Arg Arg Thr Trp Ser Arg Asp Glu Val Met Gly Asp Asn Leu Leu Leu
      130             135             140

Ser Ser Val Phe Gln Phe Ser Xaa Lys Ile Arg Gln Ser Ile Asp Lys
      145             150             155             160

Thr Ala Gly Lys Ile Arg Ile Leu Phe Lys Asp Lys Asp Arg Asn Trp
      165             170             175

Asp Asp Ile Glu Ser Lys Leu Arg Ala Glu Ser Glu Val Pro Ile Val
      180             185             190

Lys Thr Ser Ser Met Glu Ile Ser Ser Ile Leu Gln Glu Leu Lys Arg
      195             200             205

Val Glu Lys Gln Leu Gln Ala Ile Asn Ala Met Ile Asp Pro Asp Gly
      210             215             220

Thr Leu Glu Ala Leu Asn Asn Met Gly Phe Pro Ser Ala Met Leu Pro
      225             230             235             240

Ser Pro Pro Lys Gln Lys Ser Ser Pro Val Asn Asn His His Ser Pro
      245             250             255

Gly Gln Thr Pro Thr Leu Gly Gln Pro Glu Ala Arg Ala Leu His Pro
      260             265             270

Ala Ala Val Ser Ala Ala Ala Glu Phe Glu Asn Ala Glu Ser Glu Ala
      275             280             285

Asp Phe Ser Ile His Phe Asn Arg Val Asn Pro Asp Gly Glu Glu Glu

```

290

295

300

Asp Val Thr Val Thr  
305

<210> 146  
<211> 1536  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> (317)

<400> 146  
gaagagagaa aatcagcctg tctgctctct ccttggctca acaaggcctc taacagtctt 60  
ctgtcctcta ttctgcacac ggcataattg ggaacgagaa acaaaagtct tcccaaatga 120  
agagaactca cttgtttatt gtggggattt attttctgtc ctcttgagg gcagaagagg 180  
ggcttaattt cccacatat gatgggaagg accgagtggt aagtctttcc gagaagaact 240  
tcaagcagg tttaaagaaa tatgacttgc tttgcctcta ctaccatgag cgggtgtctt 300  
cagataagg cagcnaaaa cagttccaac tgaaagaaat cgtgcttgag cttgtggccc 360  
acgtccttga acataaagct ataggctttg tgatgggtga tgccaagaaa gaagccaagc 420  
ttgccaagaa actgggtttt gatgaagaag gaagcctgta tattcttaag ggtgatcgca 480  
caatagagtt tgatggcgag tttgcagctg atgtcttggg ggagttcctc ttggatctaa 540  
ttgaagaccc agtggagatc atcagcagca aactggaagt ccaagccttc gaacgcattg 600  
aagactacat caaactcatt ggctttttca agagtggaga ctcaagaatac tacaaggctt 660  
ttgaagaagc agctgaacac ttccagcctt acatcaaatt ctttgccacc tttgacaaag 720  
gggttgcaaa gaaattatct ttgaagatga atgaggttga cttctatgag ccatttatgg 780  
atgagcccat tgccatcccc aacaaacctt acacagaaga ggagctggtg gagtttgtga 840  
aggaacacca aaggtgctg agatggcatg tgggggctgg gggcctggg tctggggaat 900  
ggagaggagc ctctctgtgc taacatttca gacctgcaa gagcaacaac ctagttagta 960  
ccccagcagt acagaactca gtagtatggc tttgttgatc agtaatgact agcagggatg 1020  
ttattacttc tgaatctaag tctgcacctg caagcagagt ttgataaatc cctcagtcag 1080  
caaatcccc caaagccagg gcaagatata aataaaattc tatactagga atgagagcaa 1140  
tttagtgaaa gttcccatat accaataacc atgcccagt ctttagggaa actattttat 1200  
ctaattctca accttaggga gtaattatta ttatcccaat ttacagatc aaggaatttg 1260  
actcaatagt taagtaactt agccaaggat gaacactcta tgcatagaac ttctgggaga 1320  
gaaatgcttg ataccactta gtgtagctcc agcatggatc agcaaacttt ttctgtaaag 1380  
aacaaaatgg taaatatttc aggttctgtg ggccagatgg cgtctgtagc aactacttaa 1440  
ctgcggtgt ggcatgaaag cagccatgga tcatgtataa acaaatgggt gtggctgtgt 1500  
accagtaaaa gtttatttag gaaaaaaaa aaaaaa 1536

<210> 147  
<211> 268  
<212> PRT  
<213> Homo sapiens

<220>  
<221> UNSURE  
<222> (67)

<400> 147  
Met Lys Arg Thr His Leu Phe Ile Val Gly Ile Tyr Phe Leu Ser Ser  
1 5 10 15  
Cys Arg Ala Glu Gly Leu Asn Phe Pro Thr Tyr Asp Gly Lys Asp  
20 25 30  
Arg Val Val Ser Leu Ser Glu Lys Asn Phe Lys Gln Val Leu Lys Lys



35	40	45
Tyr Asp Leu Leu Cys Leu Tyr Tyr His Glu Pro Val Ser Ser Asp Lys		
50	55	60
Val Thr Xaa Lys Gln Phe Gln Leu Lys Glu Ile Val Leu Glu Leu Val		
65	70	75 80
Ala His Val Leu Glu His Lys Ala Ile Gly Phe Val Met Val Asp Ala		
	85	90 95
Lys Lys Glu Ala Lys Leu Ala Lys Lys Leu Gly Phe Asp Glu Glu Gly		
	100	105 110
Ser Leu Tyr Ile Leu Lys Gly Asp Arg Thr Ile Glu Phe Asp Gly Glu		
	115	120 125
Phe Ala Ala Asp Val Leu Val Glu Phe Leu Leu Asp Leu Ile Glu Asp		
	130	135 140
Pro Val Glu Ile Ile Ser Ser Lys Leu Glu Val Gln Ala Phe Glu Arg		
	145	150 155 160
Ile Glu Asp Tyr Ile Lys Leu Ile Gly Phe Phe Lys Ser Glu Asp Ser		
	165	170 175
Glu Tyr Tyr Lys Ala Phe Glu Glu Ala Ala Glu His Phe Gln Pro Tyr		
	180	185 190
Ile Lys Phe Phe Ala Thr Phe Asp Lys Gly Val Ala Lys Lys Leu Ser		
	195	200 205
Leu Lys Met Asn Glu Val Asp Phe Tyr Glu Pro Phe Met Asp Glu Pro		
	210	215 220
Ile Ala Ile Pro Asn Lys Pro Tyr Thr Glu Glu Glu Leu Val Glu Phe		
	225	230 235 240
Val Lys Glu His Gln Arg Cys Leu Arg Trp His Val Gly Ala Gly Gly		
	245	250 255
Leu Gly Ser Gly Glu Trp Arg Gly Ala Ser Leu Cys		
	260	265

&lt;210&gt; 148

&lt;211&gt; 1009

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 148

```

gaattcggcc ttcattgcgcc tgcaggaaaag aatctgacat catcacactg tgttttcctt 60
aacttgacag gaagtcaact tcaagcagat tgacttgaaa cgggatctca tttagggaagc 120
ataagtgtcc aatcaaaaac tgtgtatttt tttaaatttg gaaaatactc aagttccagt 180
tgcttatcat tctccttcac tttctgaaaa cctggcaatc ccatgtggac ttctggtaga 240
atgagcaatg caaagaactg gcttggactt ggcattgcct tgtacttctg ggggctgatg 300
gaccttacga ccaccgttct ctcgacaccc ccaacaccac aagggtgaatt agaagcactc 360
ctgtcagaca agccacagtc acatcagcgg accaagarga gctgggtttg gaaccagttt 420
ttcgttcttg aagagtacac tgggaccgac cctttgtatg tcggcaaggt aagaaatgcc 480
aagtagaaat gaccggggtg gtggatattg aaattgaata tgaattgagt atcaaagttg 540

```

```

acctagcctt tatytgagac ctgagaaaaa ctagaacaag tggtagctta cttgacacct 600
agctaaaaatg taacttctgc tttgtcagag accagtctga aaggaaagat ttatttcctt 660
gtccatgtct ctggtatgaa tgggaaaaag tgggaattgg gatttggagg aaaaggctca 720
gaccctgcaa gagctattca agtcctaaaa gaggcagcag cagctgtctg ggaatgacag 780
aatgggggag agggaaaactt ggaaatacaa gaagagtaca gagttttttg ctttgtgttt 840
ttatgggggtt tttttcagag catttccaga ggtattgcct gaggtgcaaa tttaatgaaa 900
aaaataaaaa taaaacattt ttcatttcag aagatcttag catgtgcttt aggatagttg 960
gagacaataa atatatttat aaatgttaaa aaaaaaaaaa aaaaaaaaaa 1009

```

&lt;210&gt; 149

&lt;211&gt; 87

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (59)

&lt;400&gt; 149

```

Met Trp Thr Ser Gly Arg Met Ser Asn Ala Lys Asn Trp Leu Gly Leu
  1                      5                      10                      15

```

```

Gly Met Ser Leu Tyr Phe Trp Gly Leu Met Asp Leu Thr Thr Thr Val
                20                      25                      30

```

```

Leu Ser Asp Thr Pro Thr Pro Gln Gly Glu Leu Glu Ala Leu Leu Ser
                35                      40                      45

```

```

Asp Lys Pro Gln Ser His Gln Arg Thr Lys Xaa Ser Trp Val Trp Asn
                50                      55                      60

```

```

Gln Phe Phe Val Leu Glu Glu Tyr Thr Gly Thr Asp Pro Leu Tyr Val
                65                      70                      75                      80

```

```

Gly Lys Val Arg Asn Ala Lys
                85

```

&lt;210&gt; 150

&lt;211&gt; 2546

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 150

```

aaaagaaacc aaggaaattht gtatgataag gcaggtaaag tgaggaaaca tgcaactgaa 60
caggaaaaaa ctgaagaggg attagggcctt aatataaaaa gcattgtcac catgttgatg 120
ctgatgctat tgatgatggt tgctgtccac tgtacctggg tcacaagcaa tgcctactct 180
agtccaagtg tagtcctggc ctcatacaat catgatggca ccaggaatat cttagatgat 240
tttagagaag cttacttttg gctaaggcaa aatacagatg aacatgcacg agtaatgtct 300
tgggtgggatt atggctatca gatagctgga atggctaata gaactacgtt ggtggataat 360
aacacctgga ataacagcca catagcactg gtgggaaaag ctatgtcttc taatgaaaca 420
gcagcctata aaatcatgag gactctagat gtagattatg ttttggttat ttttgagggg 480
gttattggct attctgggtg tgatatcaac aaatttctct ggatggttag gatagctgaa 540
ggagaacatc ccaaaagacat tggggaaagt gactatttta cccacagggg agaattccgt 600
gtagacaaaag caggatcccc tactttgttg aattgcctta tgtataaaat gtcatactac 660
agatttggag aaatgcagct ggattttcgt acacccccag gttttgaccg aacacgtaat 720
gctgagattg gaaataagga cattaaattc aaacatttgg aagaagcctt tacatcagaa 780
cactggcttg ttaggatata taaagtaaaa gcacctgata acagggagac attagatcac 840
aaacctcgag tcaccaacat tttccaaaaa cagaagtatt tgtcaaagaa gactaccaa 900
aggaagcggt gctacattaa aaataagctg gtttttaaga aaggcaagaa aatatctaag 960

```

```

aagactgttt aaatgcactg ttctgggtcc taacttgaag cagttgtcct tgtgagaacc 1020
gggtctttgcc ttttagctcat gtcgtgtttc acagcaaaga ggggtacagaa ccatcactgg 1080
tccagggttaa tgtacaaaat tttctggcaa tgcctgatta aaaaaataaa attggcttgt 1140
tgagaacagc tgttttcgat ttctaattgtg aagcaagaca gagcactgct gtaaatgtct 1200
agcagcagat ttttttttta ttggtacata ttatccttca aatctgagaa tttggactaa 1260
ctgcacaaaa gaacctctca atttgggtccc tggcacatgc atacttgta atgtttttat 1320
tctcttacaa gacctgcatt ttatttgaat taccgaata gcaatatgta aaatacaagt 1380
gacaaaatgt gatgagagct tcttgaaccg gtaaaactagt acaggctctga gaaagacata 1440
ttagaagaat cattatactt ccttgaatta tttttatctt catgtttctc taatgcaaag 1500
aatgtttcat caaatgtata ttttctgttg cttactgttt gctctgagaa gaagctgctg 1560
tttcaaagat ggacctctga gtagctaatt gattcaagta gtttttttat gttgacacat 1620
tattactgct gtttagcagtc gttttcacca ggtacttaca gagcagattt catacatcat 1680
tcattcaagg gctaaattta ttttttttgg aaatcatggc aactacacag gatgttgctt 1740
accaggacgg agtttttggt tcttagtact gaagttagca ctatgtttac atgcaaaaga 1800
ttaaggaaaa aacctttaa gtggacaggt atccaaagtt cattttctgt gactcatcaa 1860
agtgacaaaa gacttgtaac aactttgcct ggactttttt cattttaca cagttcatcc 1920
attcacaaatg attttgttct ctgctccata ttttttaatc ccttaagcat ttgatgaaac 1980
actctttagt gctatatgca ttttcttact tttgttaaaa atgtgacaat tgtcaaaaaa 2040
tgcactaaaa tgtaaatgga gattgaacaa gttcactttc cagcttatag gcaactttat 2100
acagacttga acattttctc cagttgttta gtaaaagtga aagagaaagg gtttttcctg 2160
ccacaggata taactttttt ttatataaca agcataacac accactgctt ttggtggaaa 2220
agtgcagaat agtatgtacc ttttatgaag aaaaatgtaa tttacaatat tcagtgaaga 2280
tgttactgct gattttctt tccaagggtg agaatttct ttgatttata gaattcattt 2340
ttgaccaga tgatgggtcc tttacagaac aataaaatgg ctgaacattt tcacaaatag 2400
agtgtaacga agtctggatt tctgatacct tgtcatttgg gggattttat tttactttgt 2460
tgcttttaaa ttcaatgcag agaagttgtt gactgtaggg gaaataaagt taattcaaat 2520
tttgaaaaaa aaaaaaaaaa aaaaaa 2546

```

&lt;210&gt; 151

&lt;211&gt; 286

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 151

```

Met Leu Met Leu Met Leu Met Met Phe Ala Val His Cys Thr Trp
 1             5             10             15

Val Thr Ser Asn Ala Tyr Ser Ser Pro Ser Val Val Leu Ala Ser Tyr
      20             25             30

Asn His Asp Gly Thr Arg Asn Ile Leu Asp Asp Phe Arg Glu Ala Tyr
      35             40             45

Phe Trp Leu Arg Gln Asn Thr Asp Glu His Ala Arg Val Met Ser Trp
      50             55             60

Trp Asp Tyr Gly Tyr Gln Ile Ala Gly Met Ala Asn Arg Thr Thr Leu
      65             70             75             80

Val Asp Asn Asn Thr Trp Asn Asn Ser His Ile Ala Leu Val Gly Lys
      85             90             95

Ala Met Ser Ser Asn Glu Thr Ala Ala Tyr Lys Ile Met Arg Thr Leu
      100            105            110

Asp Val Asp Tyr Val Leu Val Ile Phe Gly Gly Val Ile Gly Tyr Ser
      115            120            125

Gly Asp Asp Ile Asn Lys Phe Leu Trp Met Val Arg Ile Ala Glu Gly
      130            135            140

```

Glu His Pro Lys Asp Ile Arg Glu Ser Asp Tyr Phe Thr Pro Gln Gly  
145 150 155 160

Glu Phe Arg Val Asp Lys Ala Gly Ser Pro Thr Leu Leu Asn Cys Leu  
165 170 175

Met Tyr Lys Met Ser Tyr Tyr Arg Phe Gly Glu Met Gln Leu Asp Phe  
180 185 190

Arg Thr Pro Pro Gly Phe Asp Arg Thr Arg Asn Ala Glu Ile Gly Asn  
195 200 205

Lys Asp Ile Lys Phe Lys His Leu Glu Glu Ala Phe Thr Ser Glu His  
210 215 220

Trp Leu Val Arg Ile Tyr Lys Val Lys Ala Pro Asp Asn Arg Glu Thr  
225 230 235 240

Leu Asp His Lys Pro Arg Val Thr Asn Ile Phe Pro Lys Gln Lys Tyr  
245 250 255

Leu Ser Lys Lys Thr Thr Lys Arg Lys Arg Gly Tyr Ile Lys Asn Lys  
260 265 270

Leu Val Phe Lys Lys Gly Lys Lys Ile Ser Lys Lys Thr Val  
275 280 285

<210> 152

<211> 4061

<212> DNA

<213> Homo sapiens

<400> 152

aagcaattga agaaattgca gcaggatgtg atggaaatga aaaaaacaaa ggttcgccta 60  
atgaaacaaa tgaaagaaga acaagagaaa gccagactga ctgagtctag aagaaacaga 120  
gagattgctc agttgaaaaa ggatcaacgt aaaagagatc atcmacttag acttctggaa 180  
gccccaaaaa gaaaccaaga agtggttcta cgtcgcaaaa ctgaagagggt tacggctctt 240  
cgctcggcaag taagacccat gtcagataaa gtggctggga aagttactcg gaagctgagt 300  
tcattctgatg cacctgctca ggacacaggt tccagtgtag ctgctgtcga aacagatgca 360  
tcaaggacag gagcccagca gaaaatgaga attcctgtgg cgagagtcca ggccttacca 420  
acgccggcaa caaatggaaa caggaaaaaa tatcagagga aaggattgac tggccgagtg 480  
tttatttcca agacagctcg catgaagtgg cagctccttg agcgcagggt cacagacatc 540  
atcatgcaga agatgaccat ttccaacatg gaggcagata tgaatagact cctcaagcaa 600  
cgaggaggaa tcacaaaaag acgagagaaa ctttcaaaa gaaggagaa gatagtcaag 660  
gagaatggag agggagataa aaatgtggct aatatcaatg aagagatgga gtcactgact 720  
gctaatatcg attacatcaa tgacagtatt tctgattgtc aggccaacat aatgcagatg 780  
gaagaagcaa aggaagaagg tgagacattg gatgttactg cagtcattaa tgccctgcacc 840  
cttacagaag cccgatacct gctagatcac ttctgtcaa tgggcatcaa taagggtctt 900  
caggctgccc agaaagaggc tcaaattaaa gtactggaag gtcgactcaa acaaacagaa 960  
ataaccagtg ctacccaaaa ccagctctta ttccatatgt tgaaagagaa ggcagaatta 1020  
aatcctgagc tagatgcttt actaggccat gctttacaag atctagatag cgtaccatta 1080  
gaaaatgtag aggatagtag tgatgagat gctcctttaa acagcccagg atcagaagga 1140  
agcacgctgt cttcagatct catgaagctt tgtggtgaag tgaaacctaa gaacaaggcc 1200  
cgaaggagaa ccaccactca gatggaattg ctgtatgcag atagcagtga actagcttca 1260  
gacactagta caggagatgc ctcttgcct ggcctctca cactygtgc agaagggcaa 1320  
gagattggaa tgaatacaga gacaagtgg acttctgcta gggaaaaaga gctctctccc 1380  
ccactggct taccttctaa gataggcagc atttccaggc agtcattctc atcagaaaaa 1440  
aaaattccag agccttctcc tgtaacaagg agaaaggcat atgagaaagc agaaaaatca 1500

```

aaggccaagg aacaaaagca ctcagattct ggaacttcag aggctagtct ttcacctcct 1560
tcttccccac caagccggcc ccgtaatgaa ctgaatgttt ttaatcgtct tactgtttct 1620
cagggaacaa catcagttca gcaggataag tctgatgaaa gtgactcctc tctctcggag 1680
gtacacagca gatcctccag aaggggcata atcaacccat ttcttgcttc aaaaggaatc 1740
agagcttttc cacttcagtg tattcacata gctgaagggc atacaaaagc tgtgctctgt 1800
gtggattcta ctgatgatct cctcttcact ggatcaaaaag atcgtacttg taaagtatgg 1860
aatctgggtga ctgggcagga aataatgtca ctgggggggc atcccaacaa tgcgtgtct 1920
gtaaaatact gtaattatac cagtttggtc ttcactgtat caacatctta tattaagggtg 1980
tgggataatca gagattcagc aaagtgcatt cgaacactaa cgtcttcagg tcaagttact 2040
cttggagatg cttgttctgc aagtaccagt cgaacagtag ctattccttc tggagagaac 2100
cagatcaatc aaattgccct aaacccaact ggcaccttc tctatgctgc ttctggaaat 2160
gctgtcagga tgtgggatct taaaagggtt cagtctacag gaaagttaac aggacaccta 2220
ggcctgttta tgtgccttac tgtggatcag atttccagtg gacaagatct aatcatcact 2280
ggctccaagg atcattacat caaaatgttt gatgttacag aaggagctct tgggactgtg 2340
agtccacccc acaattttga acccctcat tatgatggca tagaagcact aaccattcaa 2400
ggggataacc tatttagtgg gtctagagat aatggaatca agaaatggga cttactcaa 2460
aaagaccttc ttcagcaagt tccaaatgca cataaggatt gggctctgtgc cctgggagtg 2520
gtccagacc acccagtttt gctcagtggtc tgcagagggg gcattttgaa agtctggaac 2580
atggatactt ttatgccagt gggagagatg aagggtcatg atagtcctat caatgccata 2640
tgtgttaatt ccaccacat ttttactgca gctgatgatc gaactgtgag aatttggaag 2700
gctcgcaatt tgcaagatgg tcagatctct gacacaggag atctggggga agatattgcc 2760
agtaattaaa catgaatgaa gataggttgt aaactgaatg ctgtgataat actctgtatt 2820
ctttatggaa aatgttgtcc tgtacttact aggcataaac tatgaatcgg attaaactgga 2880
aaatatatct gaattcaact gctgactata aatgggtatc taataaaatt gtgtactatc 2940
ctgtgtgctt agttttaaga tcaaccaata gatatatatc ctacaattga tataattgctt 3000
tattcacact tttattgtgg ctgaattttt gtgcctatct ataaaacaca ctttcaaatt 3060
atltgaatta ccaagacgtc tgcttttggg acagtcagaa aacacacctg gaatacgtatg 3120
cagcccacca ttaactcatt catgtagttt attcaagtga tttatgtatt taaactaaat 3180
attgaaaatg ttagtcaaat tgtggtttgc ttgtcaggta tttatatcag tctgtagtgg 3240
attcccaaat ttcaaagctc ttttaatgta atggacaaaa ataagatatg agaataattat 3300
tgatgaatlt tcataagggtg gaattgatct taatctacta acagagaagg gtagacagtt 3360
tgtgttaaat gttggcattt acttgatatt accaaagttc tgcagctcta ctatattctg 3420
tgctcaggac taaaatgctg ttaatttttt tttttttttt tccagtgtctg tgcataatct 3480
ctgtgatggg aaacattgtt gatgtcctaa cagaaatata ttttgactta ttttccatg 3540
gagttgtttc tattatgacc atttaatttt gttttttttt aatagtagta tttccttccc 3600
ttttatctaa ttttttatat gctgctaaat atatttttaa tatactatgt ttgcgaacct 3660
tggtagctat gatgagagct attatcatct gtggtgggaa aagctatgta aataggtaga 3720
ttgtatagag agactatctt gtgttggtgc tgtatgaatc tttaaaagtt gttgactgga 3780
ttttgcaaaa ggatgtataa tatttctgtc tgctcagaat attaatltgt aaattctgca 3840
agtttaattt ttatgtagat ggtataacat ttgaaaatat tgtcttatgt gattttttcc 3900
cctgaaaata tttgcttgta aatgaaaact tagctagggc ttaaataaac atgttgctat 3960
gaaatkraaa aaaaaaaaaa aaaaaaaata aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 4020
aaaaaaataa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa a a 4061

```

&lt;210&gt; 153

&lt;211&gt; 910

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (43)

&lt;400&gt; 153

```

Met Lys Lys Thr Lys Val Arg Leu Met Lys Gln Met Lys Glu Glu Gln
  1                   5                   10                   15

```

```

Glu Lys Ala Arg Leu Thr Glu Ser Arg Arg Asn Arg Glu Ile Ala Gln
                20                   25                   30

```

Leu Lys Lys Asp Gln Arg Lys Arg Asp His Xaa Leu Arg Leu Leu Glu  
 35 40 45  
 Ala Gln Lys Arg Asn Gln Glu Val Val Leu Arg Arg Lys Thr Glu Glu  
 50 55 60  
 Val Thr Ala Leu Arg Arg Gln Val Arg Pro Met Ser Asp Lys Val Ala  
 65 70 75 80  
 Gly Lys Val Thr Arg Lys Leu Ser Ser Ser Asp Ala Pro Ala Gln Asp  
 85 90 95  
 Thr Gly Ser Ser Ala Ala Ala Val Glu Thr Asp Ala Ser Arg Thr Gly  
 100 105 110  
 Ala Gln Gln Lys Met Arg Ile Pro Val Ala Arg Val Gln Ala Leu Pro  
 115 120 125  
 Thr Pro Ala Thr Asn Gly Asn Arg Lys Lys Tyr Gln Arg Lys Gly Leu  
 130 135 140  
 Thr Gly Arg Val Phe Ile Ser Lys Thr Ala Arg Met Lys Trp Gln Leu  
 145 150 155 160  
 Leu Glu Arg Arg Val Thr Asp Ile Ile Met Gln Lys Met Thr Ile Ser  
 165 170 175  
 Asn Met Glu Ala Asp Met Asn Arg Leu Leu Lys Gln Arg Glu Glu Leu  
 180 185 190  
 Thr Lys Arg Arg Glu Lys Leu Ser Lys Arg Arg Glu Lys Ile Val Lys  
 195 200 205  
 Glu Asn Gly Glu Gly Asp Lys Asn Val Ala Asn Ile Asn Glu Glu Met  
 210 215 220  
 Glu Ser Leu Thr Ala Asn Ile Asp Tyr Ile Asn Asp Ser Ile Ser Asp  
 225 230 235 240  
 Cys Gln Ala Asn Ile Met Gln Met Glu Glu Ala Lys Glu Glu Gly Glu  
 245 250 255  
 Thr Leu Asp Val Thr Ala Val Ile Asn Ala Cys Thr Leu Thr Glu Ala  
 260 265 270  
 Arg Tyr Leu Leu Asp His Phe Leu Ser Met Gly Ile Asn Lys Gly Leu  
 275 280 285  
 Gln Ala Ala Gln Lys Glu Ala Gln Ile Lys Val Leu Glu Gly Arg Leu  
 290 295 300  
 Lys Gln Thr Glu Ile Thr Ser Ala Thr Gln Asn Gln Leu Leu Phe His  
 305 310 315 320  
 Met Leu Lys Glu Lys Ala Glu Leu Asn Pro Glu Leu Asp Ala Leu Leu  
 325 330 335  
 Gly His Ala Leu Gln Asp Leu Asp Ser Val Pro Leu Glu Asn Val Glu  
 340 345 350

Asp Ser Thr Asp Glu Asp Ala Pro Leu Asn Ser Pro Gly Ser Glu Gly  
 355 360 365  
 Ser Thr Leu Ser Ser Asp Leu Met Lys Leu Cys Gly Glu Val Lys Pro  
 370 375 380  
 Lys Asn Lys Ala Arg Arg Arg Thr Thr Thr Gln Met Glu Leu Leu Tyr  
 385 390 395 400  
 Ala Asp Ser Ser Glu Leu Ala Ser Asp Thr Ser Thr Gly Asp Ala Ser  
 405 410 415  
 Leu Pro Gly Pro Leu Thr Pro Val Ala Glu Gly Gln Glu Ile Gly Met  
 420 425 430  
 Asn Thr Glu Thr Ser Gly Thr Ser Ala Arg Glu Lys Glu Leu Ser Pro  
 435 440 445  
 Pro Pro Gly Leu Pro Ser Lys Ile Gly Ser Ile Ser Arg Gln Ser Ser  
 450 455 460  
 Leu Ser Glu Lys Lys Ile Pro Glu Pro Ser Pro Val Thr Arg Arg Lys  
 465 470 475 480  
 Ala Tyr Glu Lys Ala Glu Lys Ser Lys Ala Lys Glu Gln Lys His Ser  
 485 490 495  
 Asp Ser Gly Thr Ser Glu Ala Ser Leu Ser Pro Pro Ser Ser Pro Pro  
 500 505 510  
 Ser Arg Pro Arg Asn Glu Leu Asn Val Phe Asn Arg Leu Thr Val Ser  
 515 520 525  
 Gln Gly Asn Thr Ser Val Gln Gln Asp Lys Ser Asp Glu Ser Asp Ser  
 530 535 540  
 Ser Leu Ser Glu Val His Ser Arg Ser Ser Arg Arg Gly Ile Ile Asn  
 545 550 555 560  
 Pro Phe Pro Ala Ser Lys Gly Ile Arg Ala Phe Pro Leu Gln Cys Ile  
 565 570 575  
 His Ile Ala Glu Gly His Thr Lys Ala Val Leu Cys Val Asp Ser Thr  
 580 585 590  
 Asp Asp Leu Leu Phe Thr Gly Ser Lys Asp Arg Thr Cys Lys Val Trp  
 595 600 605  
 Asn Leu Val Thr Gly Gln Glu Ile Met Ser Leu Gly Gly His Pro Asn  
 610 615 620  
 Asn Val Val Ser Val Lys Tyr Cys Asn Tyr Thr Ser Leu Val Phe Thr  
 625 630 635 640  
 Val Ser Thr Ser Tyr Ile Lys Val Trp Asp Ile Arg Asp Ser Ala Lys  
 645 650 655  
 Cys Ile Arg Thr Leu Thr Ser Ser Gly Gln Val Thr Leu Gly Asp Ala  
 660 665 670

Cys Ser Ala Ser Thr Ser Arg Thr Val Ala Ile Pro Ser Gly Glu Asn  
 675 680 685  
 Gln Ile Asn Gln Ile Ala Leu Asn Pro Thr Gly Thr Phe Leu Tyr Ala  
 690 695 700  
 Ala Ser Gly Asn Ala Val Arg Met Trp Asp Leu Lys Arg Phe Gln Ser  
 705 710 715 720  
 Thr Gly Lys Leu Thr Gly His Leu Gly Pro Val Met Cys Leu Thr Val  
 725 730 735  
 Asp Gln Ile Ser Ser Gly Gln Asp Leu Ile Ile Thr Gly Ser Lys Asp  
 740 745 750  
 His Tyr Ile Lys Met Phe Asp Val Thr Glu Gly Ala Leu Gly Thr Val  
 755 760 765  
 Ser Pro Thr His Asn Phe Glu Pro Pro His Tyr Asp Gly Ile Glu Ala  
 770 775 780  
 Leu Thr Ile Gln Gly Asp Asn Leu Phe Ser Gly Ser Arg Asp Asn Gly  
 785 790 795 800  
 Ile Lys Lys Trp Asp Leu Thr Gln Lys Asp Leu Leu Gln Gln Val Pro  
 805 810 815  
 Asn Ala His Lys Asp Trp Val Cys Ala Leu Gly Val Val Pro Asp His  
 820 825 830  
 Pro Val Leu Leu Ser Gly Cys Arg Gly Gly Ile Leu Lys Val Trp Asn  
 835 840 845  
 Met Asp Thr Phe Met Pro Val Gly Glu Met Lys Gly His Asp Ser Pro  
 850 855 860  
 Ile Asn Ala Ile Cys Val Asn Ser Thr His Ile Phe Thr Ala Ala Asp  
 865 870 875 880  
 Asp Arg Thr Val Arg Ile Trp Lys Ala Arg Asn Leu Gln Asp Gly Gln  
 885 890 895  
 Ile Ser Asp Thr Gly Asp Leu Gly Glu Asp Ile Ala Ser Asn  
 900 905 910

<210> 154  
 <211> 372  
 <212> DNA  
 <213> Homo sapiens

<400> 154  
 aatcgacacgt gtccaacttg caatgacttc catggacttg tgcagaaaat catggagcta 60  
 caggatatttt tagccaaaac atcagccaag ctgtctcgag ctgaacagcg aatgaataga 120  
 ttggatcagt gctattgtga aaggacttgc accatgaagg gaaccaccta ccgagaattt 180  
 gagtctctgga tagacggctg taagaactgc acatgcctga atggaaccat ccagtgtgaa 240  
 actctaattct gcccaaattcc tgactgccca cttaagtccg ctcttgcgta tgtggatggc 300  
 aaatgctgta aggaatgcaa atcgatatte caatttcaag gacgaacctta ctttgaaggaa 360  
 gaaagaaata ca 372



<210> 155  
 <211> 761  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (108)

<220>  
 <221> unsure  
 <222> (191)

<220>  
 <221> unsure  
 <222> (268)

<220>  
 <221> unsure  
 <222> (299)

<400> 155  
 ttctggagta tgtgttctct atgagtgcaa ggaccagacc atgaaatttg ttgagagtgc 60  
 aggctgtcca gctttggatt gtccagagtc tcatcagata accttgnttc acagctgttg 120  
 caaagtgttg aaaggttatg atttttgttt tgaaaggcat aactgcatgg agaattccat 180  
 ctgcagaaat ntgaatgaca gggctgtttg tagctgtcga gatggtttta ggggttttcg 240  
 agaggataat gcctactgtg aagacatnga tgagtgtgct gaagggcgcc attactgtng 300  
 tgaaaataca atgtgtgtca acaccccggt ttcttttatg tgcactgtca aaactggata 360  
 catcagaatt gatgattatt catgtacaga acatgatgag tgtatcaca atcagcacag 420  
 ctgtgatgaa aatgctttat gcttcaacac tgttgaggga cacaactgtg ttgcaagcc 480  
 gggctataca gggaatggaa cgacatgcaa agcattttgc aaagatggct gtaggaatgg 540  
 aggagcctgt attgccgcta atgtgtgtgc ctgcccacaa ggcttctactg gaccagctg 600  
 tgaaacggac attgatgaat gctctgatgg ttttgttcaa tgtgacagtc gtgctaattg 660  
 cattaacctg cctggatgg accactgtga gtgcagagat ggctaccatg acaatgggat 720  
 gttttcacca agtgagaaat cgtgtgaaga tattgatgag t 761

<210> 156  
 <211> 240  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> UNSURE  
 <222> (23)

<220>  
 <221> UNSURE  
 <222> (51)

<220>  
 <221> UNSURE  
 <222> (76)

<220>  
 <221> UNSURE  
 <222> (87)

<400> 156  
 Met Lys Phe Val Glu Ser Ser Gly Cys Pro Ala Leu Asp Cys Pro Glu  
 1 5 10 15

Ser His Gln Ile Thr Leu Xaa His Ser Cys Cys Lys Val Cys Lys Gly  
 20 25 30  
 Tyr Asp Phe Cys Phe Glu Arg His Asn Cys Met Glu Asn Ser Ile Cys  
 35 40 45  
 Arg Asn Xaa Asn Asp Arg Ala Val Cys Ser Cys Arg Asp Gly Phe Arg  
 50 55 60  
 Val Phe Arg Glu Asp Asn Ala Tyr Cys Glu Asp Xaa Asp Glu Cys Ala  
 65 70 75 80  
 Glu Gly Arg His Tyr Cys Xaa Glu Asn Thr Met Cys Val Asn Thr Pro  
 85 90 95  
 Gly Ser Phe Met Cys Ile Cys Lys Thr Gly Tyr Ile Arg Ile Asp Asp  
 100 105 110  
 Tyr Ser Cys Thr Glu His Asp Glu Cys Ile Thr Asn Gln His Ser Cys  
 115 120 125  
 Asp Glu Asn Ala Leu Cys Phe Asn Thr Val Gly Gly His Asn Cys Val  
 130 135 140  
 Cys Lys Pro Gly Tyr Thr Gly Asn Gly Thr Thr Cys Lys Ala Phe Cys  
 145 150 155 160  
 Lys Asp Gly Cys Arg Asn Gly Gly Ala Cys Ile Ala Ala Asn Val Cys  
 165 170 175  
 Ala Cys Pro Gln Gly Phe Thr Gly Pro Ser Cys Glu Thr Asp Ile Asp  
 180 185 190  
 Glu Cys Ser Asp Gly Phe Val Gln Cys Asp Ser Arg Ala Asn Cys Ile  
 195 200 205  
 Asn Leu Pro Gly Trp Tyr His Cys Glu Cys Arg Asp Gly Tyr His Asp  
 210 215 220  
 Asn Gly Met Phe Ser Pro Ser Gly Glu Ser Cys Glu Asp Ile Asp Glu  
 225 230 235 240

&lt;210&gt; 157

&lt;211&gt; 342

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 157

gcagaaaatt ttctctaga tcagaatctt caagaatcag ttaggttctt cactgcaaga 60  
 aataaaatgt caggcagtga atgaattata ttttaagaag taaagcaaag aagctataac 120  
 atgttatgta cagtacactc tgaaaagaaa tctgaaacaa gttattgtaa tgataaaaaat 180  
 aatgcacagg catggttact taatatcttc taacaggaaa agtcatccct atttccttgt 240  
 tttactgcac ttaatattat ttggttgaat ttgttcagta taagttcggt ccttgtgcaa 300  
 aattaaataa atatttttct taccttaaaa aaaaaaaaaa aa 342

&lt;210&gt; 158

&lt;211&gt; 1445

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 158

```

gtgcgcatgg ggacgctata gcaattcggt tgctgtcctt cctctccttc gaagatgaca 60
aggcctacca tcgtttcttc ctgcctttgg gccgtcaggc agttgggttg gaccgctcc 120
aaccctcggg tcttcctgca atacagtggg tacaatttgt catggctact ctgagataag 180
accacttttt tatctgagct tctgtgacct gctcctggga ctttgctggc tcacggagac 240
acttctctat ggagcttcag tagcaaataa ggacatcatc tgctataacc tacaagcagt 300
tggacagata ttctacattt cctcatttct ctacaccgtc aattacatct ggtatttgta 360
cacagagctg aggatgaaac acacccaaag tggacagagc acatctccac tggatgata 420
ttatacttgt cgattttgtc aaatggcctt tgttttctca agcctgatac ctctgctatt 480
gatgacacct gtattctgtc tgggaaatac tagtgaatgt ttccaaaact tcagtcagag 540
ccacaattgt atcttgatgc actcaccacc atcagccatg gctgaacttc caccttctgc 600
caacacatct gtctgtagca cactttattt ttatgggtatc gccattttcc tgggcagctt 660
tgtactcagc ctcttaccac ttatgggtctt acttatccga gccagacat tgtataagaa 720
gtttgtgaag tcaactgggt ttctggggag tgaacagtgg gcagtgatc acattgtgga 780
ccaacgggtg cgcttctacc cagtggcctt cttttgctgc tggggcccag ctgtcattct 840
aatgatcata aagctgacta agccacagga caccaagctt cacatggccc tttatgttct 900
ccaggtctta acggcaacat ctcagggtct actcaactgt ggagtatatg gctggacgca 960
gcacaaattc caccaactaa agcaggaggc tcggcgtgat gcagataccc agacaccatt 1020
attatgctca cagaagagat tctatagcag gggcttaaat tcaactggaat ccacctgac 1080
ttttcctgcc agtacttcta ccattttttg aaactacaat actggaacat ccaggaactg 1140
gagttattct acgctaattg attggaaaga atgttgggaa aggacatctt aaatcttttc 1200
taactatgcc ctaaactgca gaactcaaag gaaatatagt gccattgtta gtagtcattc 1260
tagatgaatt gggagtatct ctccagttat tccagattc actagtgtc cttaaagtct 1320
ctattcaggg agaggaagac actttccatc tcagagatag actcgtgtta cttgatgga 1380
tattggattt gtctaagtct cttctagaaa aaataaattc tagattatta aaaaaaaaaa 1440
aaaaa 1445

```

&lt;210&gt; 159

&lt;211&gt; 245

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 159

```

Met Lys His Thr Gln Ser Gly Gln Ser Thr Ser Pro Leu Val Ile Asp
 1             5             10             15

Tyr Thr Cys Arg Phe Cys Gln Met Ala Phe Val Phe Ser Ser Leu Ile
      20             25             30

Pro Leu Leu Leu Met Thr Pro Val Phe Cys Leu Gly Asn Thr Ser Glu
 35             40             45

Cys Phe Gln Asn Phe Ser Gln Ser His Asn Cys Ile Leu Met His Ser
 50             55             60

Pro Pro Ser Ala Met Ala Glu Leu Pro Pro Ser Ala Asn Thr Ser Val
 65             70             75             80

Cys Ser Thr Leu Tyr Phe Tyr Gly Ile Ala Ile Phe Leu Gly Ser Phe
      85             90             95

Val Leu Ser Leu Leu Thr Ile Met Val Leu Leu Ile Arg Ala Gln Thr
 100             105             110

Leu Tyr Lys Lys Phe Val Lys Ser Thr Gly Phe Leu Gly Ser Glu Gln
 115             120             125

Trp Ala Val Ile His Ile Val Asp Gln Arg Val Arg Phe Tyr Pro Val

```

130                      135                      140  
 Ala Phe Phe Cys Cys Trp Gly Pro Ala Val Ile Leu Met Ile Ile Lys  
 145                      150                      155                      160  
 Leu Thr Lys Pro Gln Asp Thr Lys Leu His Met Ala Leu Tyr Val Leu  
                     165                      170                      175  
 Gln Ala Leu Thr Ala Thr Ser Gln Gly Leu Leu Asn Cys Gly Val Tyr  
                     180                      185                      190  
 Gly Trp Thr Gln His Lys Phe His Gln Leu Lys Gln Glu Ala Arg Arg  
                     195                      200                      205  
 Asp Ala Asp Thr Gln Thr Pro Leu Leu Cys Ser Gln Lys Arg Phe Tyr  
                     210                      215                      220  
 Ser Arg Gly Leu Asn Ser Leu Glu Ser Thr Leu Thr Phe Pro Ala Ser  
 225                      230                      235                      240  
 Thr Ser Thr Ile Phe  
                     245

&lt;210&gt; 160

&lt;211&gt; 3550

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 160

```

ccccctcgata atggattact aaatgggata cacgctgtac cagttcgctc cgagccccgg 60
ccgcctgtcc gtcgatgcac cgaaaagggt gaagtagaga aataaagtct ccccgctgaa 120
ctactatgag gtcagaagcc ttgctgctat atttcacact gctacacttt gctggggctg 180
gtttcccaga agattctgag ccaatcagta ttctgcattg caactataca aaacagtatc 240
cggtgtttgt gggccacaag ccaggacgga acaccacaca gaggcacagg ctggacatcc 300
agatgattat gatcatgaac ggaaccctct acattgctgc tagggaccat atttatactg 360
ttgatataga cacatcacac acsgaagaaa ttattgttag caaaaaactg acatggaaat 420
ctagacaggc cgatgtagac acatgcagaa tgaagggaaa acataaggat gagtgccaca 480
actttattaa agttcttcta aagaaaaacg atgatgcatt gtttgtctgt ggaactaatg 540
ccttcaaccc ttctgcaga aactataaga tggatacatt ggaaccattc ggggatgaat 600
tcagcggaat ggccagatgc ccatatgatg ccaaacatgc caacgttgca ctggtttgcag 660
atggaaaact atactcagcc acagtgactg acttccttgc cattgacgca gtcatttacc 720
ggagtcttgg agaaagccct accctgcgga ccgtcaagca cgattcaaaa tggttgaaag 780
aaccatactt tgttcaagcc gtggattacg gagattatat ctacttcttc ttcagggaaa 840
tagcagtgga gtataacacc atgggaaagg tagttttccc aagagtggct caggtttgta 900
agaatgatat gggaggatct caaagagtcc tggagaaaca gtggacgtcg ttctgaagg 960
cgcgcttgaa ctgctcagtt cctggagact ctcatTTTTA tttcaacatt ctccaggcag 1020
ttacagatgt gattcgtatc aacgggcgtg atgttgcctt ggcaacgttt tctacacctt 1080
ataacagcat ccctgggtct gcagtctgtg cctatgacat gcttgacatt gccagtgttt 1140
ttactgggag attcaaggaa cagaagtctc ctgattccac ctggacacca gttcctgatg 1200
aacgagttcc taagcccagg ccagggttgc gtgctggctc atcctcctta gaaagatatg 1260
caacctccaa tgagttccct gatgataccc tgaacttcat caagacgcac ccgctcatgg 1320
atgaggcagt gccctccatc ttcaacaggc catggttcct gagaacaatg gtcagatacc 1380
gccttaccaa aattgcagtg gacacagctg ctgggccata tcagaatcac actgtgggtt 1440
ttctgggatc agagaaggga atcatcttga agtttttggc cagaatagga aatagtggtt 1500
ttctaaatga cagccttttc ctggaggaga tgagtgttta caactctgaa aaatgcagct 1560
atgatggagt cgaagacaaa aggatcatgg gcatgcagct ggacagagca agcagctctc 1620
tgtatgttgc gttctctacc tgtgtgataa aggttccccct tggccggtgt gaacgacatg 1680
ggaagtgtaa aaaaacctgt attgcctcca gagaccata ttgtggatgg ataaaggaag 1740
tggtgcctg cagccattta tcaccaaca gcagactgac ttttgagcag gacatagagc 1800

```

```

gtggcaatac agatggtctg ggggactgtc acaattcctt tgtggcactg aatggagtga 1860
ttcgggaaag ttacctcaaa ggccacgacc agctggttcc cgtcaccctc ttggccattg 1920
cagtcacctc ggcttttcgtc atggggggccg tcttctcggg catcacctgc tactgcgtct 1980
gtgatcatcg gcgcaaagac gtggctgtgg tgcagcgcaa ggagaaggag ctcacccact 2040
cgcgcggggg ctccatgagc agcgtcacca agctcagcgg cctcttttggg gacactcaat 2100
ccaaagaccc aaagccggag gccatcctca cgccactcat gcacaacggc aaagctcgcca 2160
ctcccggaac cagggccaag atgctcatta aagcagacca gcaccactg gacctgacgg 2220
ccctccccac ccagagtgca accccaacgc tgcagcagaa gcggaagccc agccgcggca 2280
gccgcgagtg ggagaggaac cagaacctca tcaatgcctg cacaaaggac atgccccca 2340
tgggctcccc tgtgattccc acggacctgc cctgcggggc ctccccagc cacatcccca 2400
gcgtggtggt cctgcccac acgcagcagg gctaccagca tgagtacgtg gaccagccca 2460
aaatgagcga ggtggcccg atggcgctgg aggaccaggc cgccacactg gagtataaga 2520
ccatcaagga acatttcagc agcaagagtc ccaaccatgg ggtgaacctt gtggagaacc 2580
tggacagcct gcccccaaaa gttccacagc gggaggcctc cctgggtccc ccgggagcct 2640
ccctgtttca gaccggttta agcaagcggc tggaaatgca ccaactcttt tctacgggg 2700
ttgactataa gaggagctac ccacgaact cgtcacgag aagccaccag gccaccactc 2760
tcaaaagaaa caacactaac tcctccaatt cctctcacct ctccagaaac cagagctttg 2820
gcaggggaga caaccgcgcg cccgccccgc agagggtgga ctccatccag gtgcacagct 2880
cccagccatc tggccaggcc gtgactgtct cgaggcagcc cagcctcaac gcctacaact 2940
cactgacaag gtccgggctg aagcgtacgc cctcgctaaa gccggacgta ccccccaac 3000
catcctttgc tcccccttcc acatccatga agcccaatga tgcgtgtaca taatcccagg 3060
gggagggggg caggtgtcga accagcaggc aaggcgaggt gcccgctcag ctcagcaagg 3120
ttctcaactg cctcgagtac ccaccagacc aagaaggcct gcggcagagc cgaggacgct 3180
gggtcctcct ctctgggaca caggggtact cagcaaaaact gggccgcgtg gtttggtgaa 3240
ggtttgcaac ggcggggact caccttcatt ctcttcttc actttcccc acaccctaca 3300
acaggtcgga cccacaaaag acttcagtta tcatcacaaa catgagccaa aagcacatac 3360
atacccatc cccaccccc acacacacac acacatgcac acaacacata cacacacag 3420
cacagaggtg aacagaaaact gaaacatttt gtccacaact tcacgggacg tggccagact 3480
gggtttgcgt tccaacctgc aaaacacaaa tacatttttt aaaatcaaga aaatttaaaa 3540
aaaaaaaaa 3550

```

&lt;210&gt; 161

&lt;211&gt; 975

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 161

```

Met Arg Ser Glu Ala Leu Leu Leu Tyr Phe Thr Leu Leu His Phe Ala
  1              5              10              15

```

```

Gly Ala Gly Phe Pro Glu Asp Ser Glu Pro Ile Ser Ile Ser His Gly
      20              25              30

```

```

Asn Tyr Thr Lys Gln Tyr Pro Val Phe Val Gly His Lys Pro Gly Arg
      35              40              45

```

```

Asn Thr Thr Gln Arg His Arg Leu Asp Ile Gln Met Ile Met Ile Met
      50              55              60

```

```

Asn Gly Thr Leu Tyr Ile Ala Ala Arg Asp His Ile Tyr Thr Val Asp
      65              70              75              80

```

```

Ile Asp Thr Ser His Thr Glu Glu Ile Tyr Cys Ser Lys Lys Leu Thr
      85              90              95

```

```

Trp Lys Ser Arg Gln Ala Asp Val Asp Thr Cys Arg Met Lys Gly Lys
      100             105             110

```

```

His Lys Asp Glu Cys His Asn Phe Ile Lys Val Leu Leu Lys Lys Asn
      115             120             125

```

Asp Asp Ala Leu Phe Val Cys Gly Thr Asn Ala Phe Asn Pro Ser Cys  
 130 135 140  
 Arg Asn Tyr Lys Met Asp Thr Leu Glu Pro Phe Gly Asp Glu Phe Ser  
 145 150 155 160  
 Gly Met Ala Arg Cys Pro Tyr Asp Ala Lys His Ala Asn Val Ala Leu  
 165 170 175  
 Phe Ala Asp Gly Lys Leu Tyr Ser Ala Thr Val Thr Asp Phe Leu Ala  
 180 185 190  
 Ile Asp Ala Val Ile Tyr Arg Ser Leu Gly Glu Ser Pro Thr Leu Arg  
 195 200 205  
 Thr Val Lys His Asp Ser Lys Trp Leu Lys Glu Pro Tyr Phe Val Gln  
 210 215 220  
 Ala Val Asp Tyr Gly Asp Tyr Ile Tyr Phe Phe Phe Arg Glu Ile Ala  
 225 230 235 240  
 Val Glu Tyr Asn Thr Met Gly Lys Val Val Phe Pro Arg Val Ala Gln  
 245 250 255  
 Val Cys Lys Asn Asp Met Gly Gly Ser Gln Arg Val Leu Glu Lys Gln  
 260 265 270  
 Trp Thr Ser Phe Leu Lys Ala Arg Leu Asn Cys Ser Val Pro Gly Asp  
 275 280 285  
 Ser His Phe Tyr Phe Asn Ile Leu Gln Ala Val Thr Asp Val Ile Arg  
 290 295 300  
 Ile Asn Gly Arg Asp Val Val Leu Ala Thr Phe Ser Thr Pro Tyr Asn  
 305 310 315 320  
 Ser Ile Pro Gly Ser Ala Val Cys Ala Tyr Asp Met Leu Asp Ile Ala  
 325 330 335  
 Ser Val Phe Thr Gly Arg Phe Lys Glu Gln Lys Ser Pro Asp Ser Thr  
 340 345 350  
 Trp Thr Pro Val Pro Asp Glu Arg Val Pro Lys Pro Arg Pro Gly Cys  
 355 360 365  
 Cys Ala Gly Ser Ser Ser Leu Glu Arg Tyr Ala Thr Ser Asn Glu Phe  
 370 375 380  
 Pro Asp Asp Thr Leu Asn Phe Ile Lys Thr His Pro Leu Met Asp Glu  
 385 390 395 400  
 Ala Val Pro Ser Ile Phe Asn Arg Pro Trp Phe Leu Arg Thr Met Val  
 405 410 415  
 Arg Tyr Arg Leu Thr Lys Ile Ala Val Asp Thr Ala Ala Gly Pro Tyr  
 420 425 430  
 Gln Asn His Thr Val Val Phe Leu Gly Ser Glu Lys Gly Ile Ile Leu  
 435 440 445

Lys Phe Leu Ala Arg Ile Gly Asn Ser Gly Phe Leu Asn Asp Ser Leu  
 450 455 460  
 Phe Leu Glu Glu Met Ser Val Tyr Asn Ser Glu Lys Cys Ser Tyr Asp  
 465 470 475 480  
 Gly Val Glu Asp Lys Arg Ile Met Gly Met Gln Leu Asp Arg Ala Ser  
 485 490 495  
 Ser Ser Leu Tyr Val Ala Phe Ser Thr Cys Val Ile Lys Val Pro Leu  
 500 505 510  
 Gly Arg Cys Glu Arg His Gly Lys Cys Lys Lys Thr Cys Ile Ala Ser  
 515 520 525  
 Arg Asp Pro Tyr Cys Gly Trp Ile Lys Glu Gly Gly Ala Cys Ser His  
 530 535 540  
 Leu Ser Pro Asn Ser Arg Leu Thr Phe Glu Gln Asp Ile Glu Arg Gly  
 545 550 555 560  
 Asn Thr Asp Gly Leu Gly Asp Cys His Asn Ser Phe Val Ala Leu Asn  
 565 570 575  
 Gly Val Ile Arg Glu Ser Tyr Leu Lys Gly His Asp Gln Leu Val Pro  
 580 585 590  
 Val Thr Leu Leu Ala Ile Ala Val Ile Leu Ala Phe Val Met Gly Ala  
 595 600 605  
 Val Phe Ser Gly Ile Thr Val Tyr Cys Val Cys Asp His Arg Arg Lys  
 610 615 620  
 Asp Val Ala Val Val Gln Arg Lys Glu Lys Glu Leu Thr His Ser Arg  
 625 630 635 640  
 Arg Gly Ser Met Ser Ser Val Thr Lys Leu Ser Gly Leu Phe Gly Asp  
 645 650 655  
 Thr Gln Ser Lys Asp Pro Lys Pro Glu Ala Ile Leu Thr Pro Leu Met  
 660 665 670  
 His Asn Gly Lys Leu Ala Thr Pro Gly Asn Thr Ala Lys Met Leu Ile  
 675 680 685  
 Lys Ala Asp Gln His His Leu Asp Leu Thr Ala Leu Pro Thr Pro Glu  
 690 695 700  
 Ser Thr Pro Thr Leu Gln Gln Lys Arg Lys Pro Ser Arg Gly Ser Arg  
 705 710 715 720  
 Glu Trp Glu Arg Asn Gln Asn Leu Ile Asn Ala Cys Thr Lys Asp Met  
 725 730 735  
 Pro Pro Met Gly Ser Pro Val Ile Pro Thr Asp Leu Pro Leu Arg Ala  
 740 745 750  
 Ser Pro Ser His Ile Pro Ser Val Val Val Leu Pro Ile Thr Gln Gln  
 755 760 765

Gly Tyr Gln His Glu Tyr Val Asp Gln Pro Lys Met Ser Glu Val Ala  
 770 775 780  
 Gln Met Ala Leu Glu Asp Gln Ala Ala Thr Leu Glu Tyr Lys Thr Ile  
 785 790 795 800  
 Lys Glu His Phe Ser Ser Lys Ser Pro Asn His Gly Val Asn Leu Val  
 805 810 815  
 Glu Asn Leu Asp Ser Leu Pro Pro Lys Val Pro Gln Arg Glu Ala Ser  
 820 825 830  
 Leu Gly Pro Pro Gly Ala Ser Leu Phe Gln Thr Gly Leu Ser Lys Arg  
 835 840 845  
 Leu Glu Met His His Ser Phe Ser Tyr Gly Val Asp Tyr Lys Arg Ser  
 850 855 860  
 Tyr Pro Thr Asn Ser Leu Thr Arg Ser His Gln Ala Thr Thr Leu Lys  
 865 870 875 880  
 Arg Asn Asn Thr Asn Ser Ser Asn Ser Ser His Leu Ser Arg Asn Gln  
 885 890 895  
 Ser Phe Gly Arg Gly Asp Asn Pro Pro Pro Ala Pro Gln Arg Val Asp  
 900 905 910  
 Ser Ile Gln Val His Ser Ser Gln Pro Ser Gly Gln Ala Val Thr Val  
 915 920 925  
 Ser Arg Gln Pro Ser Leu Asn Ala Tyr Asn Ser Leu Thr Arg Ser Gly  
 930 935 940  
 Leu Lys Arg Thr Pro Ser Leu Lys Pro Asp Val Pro Pro Lys Pro Ser  
 945 950 955 960  
 Phe Ala Pro Leu Ser Thr Ser Met Lys Pro Asn Asp Ala Cys Thr  
 965 970 975

&lt;210&gt; 162

&lt;211&gt; 1723

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 162

ctgcagactt tggggtcacc ggccagccac acaggcaccg ttttcagatg tccacttctc 60  
 attgggtaca tcaatctttt aacttttgggg gtcacagttt tagccacett tcgggggggtg 120  
 actggagcag taggaggtgt ggggtcattt tatgaatata ataaaatgga gctgactatg 180  
 gacrrrgact wagtgtgggg gagaggggac gatacaggtt gtgtgtcttg gagtgacctg 240  
 gggacagggg cccccgggtg gtcctatggc aggatgagaa rggagggact tggtcccccc 300  
 agagccccgt ggaagctact gttctctcca gtgtctcgag cgtagccaaa ataaggttgg 360  
 gaggtccccg gctgtctgc tgtggtctga gctggctgca agcccaggtg ggggagcgag 420  
 tctgggaaga ttggctttga ctctctgttg ccagaggaga tgccatccca gcacggcccc 480  
 cactgtagtc caggtctgtg gtggcagcgg gggcaagggg aggggcaagg ctgccccac 540  
 cccacgcacc aagtcacgcc aagtctcagc aggtaaaagc acgtgagcct agggcgagcg 600  
 gagggagtc tggtgcccc gcaggtcagg agggaaagca gggctcagag ggcacgtg 660  
 cccagggca ggtcctacc tgggggtcag gagcaccttg gtcttgatga ttgattgatt 720  
 gatagaatgg agctgggtct gagcctccca ggcttgagct cctgggagtt cttgtgcggt 780



```

gagctgggca gctcctgggt aggtccgggc accaagcagg ccctgatgtg gacagagtcc 840
catcagaggg agctgatgaa gaatgggtccc tgtaagtaag tctactaggtt caacaactgc 900
ctggccgagc actcagcccc tggagctcag gccaacacca gagccccggt tttagggggc 960
aggagagcag gtgaccaatt atttggggag tcttgggtag aatttccgcc acacattctc 1020
cccagggtcg caggggtctt ccgaggcagg gcggtggagc aggattcagg atgtgggtggg 1080
aatagagtga ggggcagtgg gtgggcagac ctgggcgtca gaggtcctga tgggaaagga 1140
ggcaggggct acccagagag gggggctcgt gtggcacagc cccaccgac tccgcgctcc 1200
ccctccccctg tgagccccgg gggctgtaca tactctactc catccccctg tccatccctg 1260
agaccacccc cgccgccctt gcgtcgactt agcaaccacc tcataggccc acccacctcg 1320
ggatccgagc caaccatccc acatcacaaa ctttgggttg ggggacttta cgttcgttta 1380
atttctcatt ttgtacggag aaatattctt ttcaaaagcg tcttttgact gaagtaactt 1440
tcttggtgct gttgttaact cgttcctttt tttaatttat tccccaccc caggcagccc 1500
tcttggttcc tactcaccct cccccctcc cccaccctcc gtcccatctg aaccatttgt 1560
ttcttttctt tccgtcagat tttggaaaaa ttctcctctc ctccccgcc cctccacacc 1620
atcctcccs g atttaaatat agtcactgct acaagtaaca gatgcactgt gaagattcca 1680
gtattaataa aggtgtactg taattaacaa aaaaaaaaaa aaa 1723

```

<210> 163

<211> 101

<212> PRT

<213> Homo sapiens

<220>

<221> UNSURE

<222> (49)

<220>

<221> UNSURE

<222> (51)

<220>

<221> UNSURE

<222> (81)

<400> 163

```

Val Phe Arg Cys Pro Leu Leu Ile Gly Tyr Ile Asn Leu Leu Thr Leu
  1               5               10               15

```

```

Gly Val Thr Val Leu Ala Thr Phe Arg Gly Val Thr Gly Ala Val Gly
      20               25               30

```

```

Gly Val Gly Ser Phe Tyr Glu Tyr Asn Lys Met Glu Leu Thr Met Asp
    35               40               45

```

```

Xaa Asp Xaa Val Trp Gly Arg Gly Asp Asp Thr Gly Cys Val Ser Gly
    50               55               60

```

```

Ser Ala Trp Gly Thr Gly Thr Pro Arg Trp Ser Tyr Gly Arg Met Arg
    65               70               75               80

```

```

Xaa Glu Gly Leu Gly Ser Pro Arg Ala Arg Trp Lys Leu Leu Phe Ser
      85               90               95

```

```

Pro Val Ser Arg Ala
      100

```

<210> 164

<211> 469

<212> DNA

<213> Homo sapiens

<400> 164

```
gcaacataca agccggccat attagagaga tggaaataaa gcttccttaa tgttgatat 60
gtctttgaag tacatccgtg cttttttttt tagcatccaa ccattcctcc cttgtagttc 120
tcgccccctc aaatcacccct ctcccgtagc ccaccgact aacatctcag tctctgaaaa 180
tgcacagaga tgcctggcta cctcgccctg ctttcagcct caccggggtc agtctctttt 240
tctcttttgt gccaccagga cggagcatgg aggtcacagt acctgccacc ctcaacgtcc 300
tcaatggctc tgacgcccgc ctgcctgca cttcaactc ctgctacaca gtgaaccaca 360
aacagttctc cctgaactgg acttaccagg agtgcaacaa ctgctctgag gagatgttcc 420
tccagttccg catgaagatc attaacctga agctggagcg gtttcaaga 469
```

<210> 165

<211> 96

<212> PRT

<213> Homo sapiens

<400> 165

```
Met His Arg Asp Ala Trp Leu Pro Arg Pro Ala Phe Ser Leu Thr Gly
  1             5             10             15

Leu Ser Leu Phe Phe Ser Leu Val Pro Pro Gly Arg Ser Met Glu Val
          20             25             30

Thr Val Pro Ala Thr Leu Asn Val Leu Asn Gly Ser Asp Ala Arg Leu
    35             40             45

Pro Cys Thr Phe Asn Ser Cys Tyr Thr Val Asn His Lys Gln Phe Ser
    50             55             60

Leu Asn Trp Thr Tyr Gln Glu Cys Asn Asn Cys Ser Glu Glu Met Phe
    65             70             75             80

Leu Gln Phe Arg Met Lys Ile Ile Asn Leu Lys Leu Glu Arg Phe Gln
          85             90             95
```

<210> 166

<211> 454

<212> DNA

<213> Homo sapiens

<400> 166

```
tggcttttgg ctacagagag ggaagggaaa gcctgaggcc ggcataaggg gaggccttgg 60
aacctgagct gccaatgcc a gccctgtccc atctgaggcc acgataactcg ctctctctccc 120
aacaactcct ttggtgggga caaaagtgc aattgtaggc caggcacagt ggctcacgcc 180
tgtaatccca gcactttggg aggccaaaggc gggtaggatta cctccatctg tttagtagaa 240
atgggcaaaa ccccatTTTT actaaaaata caagaattag ctgggcgtgg tggcgtgtgc 300
ctgtaatccc agctatttgg gaggctgagg caggagaatc gcttgagccc gggaagcaga 360
gggtgcagtg aactgagata gtgatagtgc cactgcaatt cagcctgggt gacatagaga 420
gactccatct caaaaaaaaaa aaaaaaaaaa aaaa 454
```

<210> 167

<211> 736

<212> DNA

<213> Homo sapiens

<220>

<221> unsure

<222> (680)

&lt;220&gt;

&lt;221&gt; unsure

&lt;222&gt; (704)

&lt;400&gt; 167

```

gttttttaaac attatgttct acatgataaa tacatataat agtatgtcta tttaaataat 60
taaaatttgaa aaaaactaat caaatattat cataagtaat gataaaaacc acaatttctt 120
ttgcagcaaa ctaataacac ctggatttct caatttatta agttgtactt acctgatgct 180
gatgatgatt actgtattta cacattgtct cagagctcac tcttgaggag gttgtggcct 240
cgaaaatgcc ttgttgcccc tctggaatct gtcttttcag cttcatctcc tcctcctcac 300
ctcctgctgt ggtgcacaga tacctatagg caggctccat ctctcctccc ccagctcctc 360
ccctagtcca cagataccta taggcaggct tcatctcctc ctccccagct tctcccctag 420
tgcacagata cctataggca ggctccatct cctcctcccc agctcctccc ctartgcaca 480
gacacctata ggcaagctcc atctcctcct ctttagctag cctccccatc tcatcacaac 540
gcatgtctgt gacctttggt aatcatttac agtgccacac ggaaccctgt attttgcaca 600
cagcaaaaca aacaatgttt agctttatct atggtatttg atgactgtaa atggaaataa 660
atattgttct ttattttttn aaaaaaaaaa aaaaaaaaaa aaanaaaaaa aaaaaaaaaa 720
aaaaaaaaaa aaaaaa

```

&lt;210&gt; 168

&lt;211&gt; 114

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (100)

&lt;400&gt; 168

```

Met Leu Met Met Ile Thr Val Phe Thr His Cys Leu Arg Ala His Ser
  1             5             10             15

Cys Gly Gly Cys Gly Leu Glu Asn Ala Leu Leu Ser Leu Trp Asn Leu
      20             25             30

Ser Phe Gln Leu His Leu Leu Leu Thr Ser Cys Cys Gly Ala Gln
      35             40             45

Ile Pro Ile Gly Arg Leu His Leu Leu Leu Pro Ser Ser Ser Pro Ser
      50             55             60

Ala Gln Ile Pro Ile Gly Arg Leu His Leu Leu Leu Pro Ser Phe Ser
      65             70             75             80

Pro Ser Ala Gln Ile Pro Ile Gly Arg Leu His Leu Leu Leu Pro Ser
      85             90             95

Ser Ser Pro Xaa Ala Gln Thr Pro Ile Gly Lys Leu His Leu Leu Leu
      100            105            110

Phe Ser

```

&lt;210&gt; 169

&lt;211&gt; 1427

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 169

```

gtagtacta actccaacac ctaatagcat tggtagaaag cttataaatg cagttattta 60
gcctcgacta agatttttct gatacctagt ttcacttttt aatgccctct gaaagttttt 120
tgatcagttg tttaatggga gatctgaaat gttaaactca gaccagaaag aagagaacct 180
gttttctaga aattaggttt ttaatccaag taagatgcaa gcttttgctt ttttaataac 240
ttgtatagct aaaaacttga cggtagaaaag ctctcagatc aaagctgac cttctgtcag 300
taatgattct aaaaataagc aagattttta tggggaatat attttatttc attcttatct 360
caaacctagg tactgtgggc gttttgagtt catttcgagg cattttcaat gtgcctcagg 420
ccacatccaa cctctyccca gggccagatt taatgttcag cctcataaaag gttatcatag 480
ttttaacatt taagtactat tttgcagtgg gtatatacca aaatttgcta atagtaagat 540
aaccttagtt atatatcatt cacgttagtt ctatcttgga ggcaataaac atttcttggt 600
caagaaattc atgttctatc ttggaggcaa taaacaaaca ttttttggtc aaaattaggg 660
ctacctatt gtcttctatg cttttcctga tctgtggtca aacatttttc ttagtcattt 720
agaaattttc tatgttggtt taaattttct ttaaacttag aatggagtat gtgaccaata 780
ctttcctttg gaatggtagt gacatttgaa atagagccca ttctttataa agtataaaat 840
atgtttaatg ctagtatttt taactaaact tttgagaaac tagattcaca tgctgttgta 900
agaaataata cagagacctc tttcgtgtac ctttcacttt gtttccca cagtgaacat 960
ctttcaaaac tgtcatacaa tatcataccc aggatactga cactggtata gctaagatag 1020
agaacgtttc cacacagaac tttttctagc acagggatcc ctcatcttgc ttttgatgac 1080
catacccact tcaactccat cctactccc ttcttaaccc ttggcaacca taatctgttc 1140
tccattttta tagttttttt tttttcattt caataaagct gtataactgg aatcataata 1200
atatgtaacc ttttgggatt ggcttttttt catttagcat gattttctgg aggttaatcc 1260
agcttattat gtgtatcaag tctattgaca ggtacttttt agtgtgaata gaatcccata 1320
gtatagatgt accacagttt gtttaactgt tcacctgctg agagacattg ggccagtttt 1380
tggctactat aaataaagtt gctataaaca aaaaaaaaa aaaaaaa 1427

```

&lt;210&gt; 170

&lt;211&gt; 79

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (45)

&lt;400&gt; 170

```

Met Ile Leu Lys Ile Ser Lys Ile Leu Met Gly Asn Ile Phe Tyr Phe
  1             5             10             15

Ile Leu Ile Ser Asn Leu Gly Thr Val Val Val Leu Ser Ser Phe Arg
      20             25             30

Gly Ile Phe Asn Val Pro Gln Ala Thr Ser Asn Leu Xaa Pro Gly Pro
      35             40             45

Asp Leu Met Phe Ser Leu Ile Lys Val Ile Ile Val Leu Thr Phe Lys
      50             55             60

Tyr Tyr Phe Ala Val Gly Ile Tyr Gln Asn Leu Leu Ile Val Arg
      65             70             75

```

&lt;210&gt; 171

&lt;211&gt; 572

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 171

```

tgcagattct gtggttatac tcaactcctca tcccaaagaa tgaaatttac cactctcctc 60
ttcttggcag ctgtagcagg ggccttggc tatgtgaag atgcctcctc tgactcgacg 120

```

```

ggtgctgac ctgcccagga agctgggacc tctaagccta atgaagagat ctcaggtcca 180
gcagaaccag cttcaccccc agagacaacc acaacagccc aggagacttc ggcggcagca 240
gttcagggga cagccaaggt cacctcaagc aggcaggaac taaaccccct gaaatccata 300
gtggagaaaa gtatcttact aacagaacaa gcccttgcaa aagcaggaaa aggaatgcac 360
ggagggcgtgc caggtggaaa acaattcatc gaaaatggaa gtgaatttgc aaaaaatta 420
ctgaagaaat tcagtctatt aaaaccatgg gcatgagaag ctgaaaagaa tgggatcatt 480
ggacttaaag ccttaaatac cctttagtagc cagagytatt aaaacgaaag catccaaaaa 540
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 572

```

&lt;210&gt; 172

&lt;211&gt; 138

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 172

```

Met Lys Phe Thr Thr Leu Leu Phe Leu Ala Ala Val Ala Gly Ala Leu
  1             5             10             15

```

```

Val Tyr Ala Glu Asp Ala Ser Ser Asp Ser Thr Gly Ala Asp Pro Ala
          20             25             30

```

```

Gln Glu Ala Gly Thr Ser Lys Pro Asn Glu Glu Ile Ser Gly Pro Ala
      35             40             45

```

```

Glu Pro Ala Ser Pro Pro Glu Thr Thr Thr Thr Ala Gln Glu Thr Ser
      50             55             60

```

```

Ala Ala Ala Val Gln Gly Thr Ala Lys Val Thr Ser Ser Arg Gln Glu
      65             70             75             80

```

```

Leu Asn Pro Leu Lys Ser Ile Val Glu Lys Ser Ile Leu Leu Thr Glu
          85             90             95

```

```

Gln Ala Leu Ala Lys Ala Gly Lys Gly Met His Gly Gly Val Pro Gly
      100             105             110

```

```

Gly Lys Gln Phe Ile Glu Asn Gly Ser Glu Phe Ala Gln Lys Leu Leu
      115             120             125

```

```

Lys Lys Phe Ser Leu Leu Lys Pro Trp Ala
      130             135

```

&lt;210&gt; 173

&lt;211&gt; 1223

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 173

```

ccttgttcca cgtagctggc aagggtcttca ttcacttgcc actgctagtc ttccaacctt 60
tctggacttt ctttgccttt gtcttgtttt ggggtgtactg gatcatgaca cttctttttc 120
ttggcactac cggcagtcct gttcagaatg agcaaggcct tgtggagttc aaaattttctg 180
ggcctctgca gtacatgttg tgggtaccatg tgggtgggcct gatttggatc agtgaattta 240
ttctagcatg tcagcagatg acagtggcag gagctgtggt aacatactat ttactaggg 300
ataaaaggaa tttgccattt acacctattt tggcatcagt aaatcgctt atycgttacc 360
acctaggtac ggtggcaaaa ggatctttca ttatcacatt agtcaaaatt ccgcgaatga 420
tccttatgta tattcacagt cagctcaaag gaaaggaaaa tgcttgtgca cgatgtgtgc 480
tgaaatcttg catttggtgc ctttggtgtc ttgaaaagtg cctaaattat ttaaatcaga 540
atgcatacac agccacagct atcaacagca ccaacttctg cacctcagca aaggatgcct 600
ttgtcattct ggtggagaat gctttgcgag tggctaccat caacacagta ggagatttta 660

```

```

tggtattcct tggcaagggt ctgatagtct gcagcacagg tttagctggg attatgctgc 720
tcaactacca gcaggactac acagtatggg tgctgcctct gatcatcgtc tgccctcttg 780
ctttcctagt cgctcattgc ttctgtctta tttatgaaat ggtagtggat gtattattct 840
kgkgttttgc cattgawaca aaatacaatg atgggmccc tggcagagaa ttctatatgg 900
ataaagtgcg gatggagttt gtggaaaaca gtaggaaagc aatgaaagaa gctggtaagg 960
gaggcgctgc tgattccaga gagctaaagc cgatgctgaa gaaaagggtga ctggtctcat 1020
gagccctgaa gaatgaactc agaggaggtt gtttacatga ggttctccca ctcaccagct 1080
gttgagagtc tgcgattatg aagagcagga tcttattact tcaatgaaag catgtaacaa 1140
gtttctcaaa ccaccaacag ccaagtggat ttggtacagt gcggctgtct aataaataat 1200
caaaagcaaa aaaaaaaaaa aaa 1223

```

<210> 174  
 <211> 301  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> UNSURE  
 <222> (246)..(247)

<220>  
 <221> UNSURE  
 <222> (251)

<220>  
 <221> UNSURE  
 <222> (258)

<400> 174  
 Met Thr Leu Leu Phe Leu Gly Thr Thr Gly Ser Pro Val Gln Asn Glu  
 1 5 10 15  
 Gln Gly Phe Val Glu Phe Lys Ile Ser Gly Pro Leu Gln Tyr Met Trp  
 20 25 30  
 Trp Tyr His Val Val Gly Leu Ile Trp Ile Ser Glu Phe Ile Leu Ala  
 35 40 45  
 Cys Gln Gln Met Thr Val Ala Gly Ala Val Val Thr Tyr Tyr Phe Thr  
 50 55 60  
 Arg Asp Lys Arg Asn Leu Pro Phe Thr Pro Ile Leu Ala Ser Val Asn  
 65 70 75 80  
 Arg Leu Ile Arg Tyr His Leu Gly Thr Val Ala Lys Gly Ser Phe Ile  
 85 90 95  
 Ile Thr Leu Val Lys Ile Pro Arg Met Ile Leu Met Tyr Ile His Ser  
 100 105 110  
 Gln Leu Lys Gly Lys Glu Asn Ala Cys Ala Arg Cys Val Leu Lys Ser  
 115 120 125  
 Cys Ile Cys Cys Leu Trp Cys Leu Glu Lys Cys Leu Asn Tyr Leu Asn  
 130 135 140  
 Gln Asn Ala Tyr Thr Ala Thr Ala Ile Asn Ser Thr Asn Phe Cys Thr  
 145 150 155 160  
 Ser Ala Lys Asp Ala Phe Val Ile Leu Val Glu Asn Ala Leu Arg Val

165	170	175
Ala Thr Ile Asn Thr Val Gly Asp Phe Met Leu Phe Leu Gly Lys Val		
180	185	190
Leu Ile Val Cys Ser Thr Gly Leu Ala Gly Ile Met Leu Leu Asn Tyr		
195	200	205
Gln Gln Asp Tyr Thr Val Trp Val Leu Pro Leu Ile Ile Val Cys Leu		
210	215	220
Phe Ala Phe Leu Val Ala His Cys Phe Leu Ser Ile Tyr Glu Met Val		
225	230	235
Val Asp Val Leu Phe Xaa Xaa Phe Ala Ile Xaa Thr Lys Tyr Asn Asp		
245	250	255
Gly Xaa Pro Gly Arg Glu Phe Tyr Met Asp Lys Val Leu Met Glu Phe		
260	265	270
Val Glu Asn Ser Arg Lys Ala Met Lys Glu Ala Gly Lys Gly Gly Val		
275	280	285
Ala Asp Ser Arg Glu Leu Lys Pro Met Leu Lys Lys Arg		
290	295	300

&lt;210&gt; 175

&lt;211&gt; 2460

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 175

```

gagaagcgcg atgacggcta cgaggccgct gccagctcca aaactagctc aggcgatgcc 60
tcctcactca gcatcgaggg agactaaca actccgggca aagttggggc tgaaaccctt 120
ggaggttaat gccatcaaga aggaggcggg caccaaggag gagcccgtga cagctgatgt 180
catcaaccct atggccttgc gacagcgaga ggagctgcgg gagaagctgg cggctgccaa 240
ggagaagcgc ctgctgaacc aaaagctggg gaagataaag accctaggag aggatgaccc 300
ctggctggac gacactgcag cctggatcga gaggagccgg cagctgcaga aggagaagga 360
cctggcagag aagagggcca agttactgga ggagatggac caaaagtttg gtgtcagcac 420
tctggtggag gaggagtctg ggcagaggcg gcaggacctg tacagtgcgc gggacctgca 480
gggcctcact gtggagcatg ccattgattc cttccgagaa ggggagacaa tgattcttac 540
cctcaaggac aaaggcgtgc tgcaggagga ggaggacgtg ctggtgaacg tgaacctggt 600
ggataaggag cgggcagaga aaaatgtgga gctgcggaag aagaagcctg actacctgcc 660
ctatgccgag gacgagagcg tggacgacct ggcgacgcaa aaacctcgct ctatcctgtc 720
caagtatgac gaaaagcttg aaggggagcg gccacattcc ttccgcttgg agcaggggcg 780
cacggctgat ggcctgcggg agcgggagct ggaggagatc cgggccaagc tgcggctgca 840
ggctcagtcg ctgagcacag tggggccccg gctggcctcc gaatacctca cgcctgagga 900
gatggtgacc tttaaaaaga ccaagcggag ggtgaagaaa atccgcaaga aggagaagga 960
ggtagtagtg cgggcagatg acttgctgcc tctcggggac cagactcagg atggggactt 1020
tggttccaga ctgcggggac ggggtcgcgg ccgagtgtcc gaagtggagg aggagaagga 1080
gcctgtgcct cagcccttgc cgtcggacga caccgagtg gagaacatgg acatcagtga 1140
tgaggaggaa ggtggagctc caccgcccgg gtccccgcag gtgctggagg aggacgaggc 1200
ggagctggag ctgcagaagc agctggagaa gggacgccgg ctgcgacagt tacagcagct 1260
acagcagctg cgagacagtg gcgagaaggt ggtggagatt gtgaagaagc tggagtctcg 1320
ccagcggggc tgggaggagg atgaggatcc cgagcgggag ggggccatcg tgttcaacgc 1380
cacgtccgag ttctgccgca ccttggggga gatccccacc tacgggctgg ctggcaatcg 1440
cgaggagcag gaggagctca tggactttga acgggatgag gagcgctcag ccaacgggtg 1500
ctccgaatct gacggggagg agaacatcgg ctggagcacg gtgaacctgg acgaggagaa 1560
gcagcagcag gatgtgaggg ccacgccgct ggggggtggg cgtttggggg tgctcaagct 1620

```

ggagatgagc accgggctcg gtgtccagag cctcagcctc ctcattccaga gtgggctctg 1680  
 cagacctccc agggcgatct gaggagtaaa tgaggaaatt aaatgttgtg gagggctggt 1740  
 gcctggcagg tggtgaccag tgggtggggc tgagaagagc cggataggcc tgctaaccac 1800  
 ccccgccacg tgtcccgtag ttctctgctt cctccaccac catcctggac gaggaaccga 1860  
 tcgtgaatag ggggctggca gctgccctgc tctgtgtca gaacaaaggg ctgctggaga 1920  
 ccacagtga gaaggtggcc cgggtgaagg cccccaacaa gtcgctgccc tcagccgtgt 1980  
 actgcatcga ggataagatg gccatcgatg acaagtacag ccggagggag gaataccgag 2040  
 gcttcacaca ggacttcaag gagaaggacg gtacaaaccc gacgttaaga tcgaatacgt 2100  
 ggatgagacg ggccggaaac tcacacccaa ggaggctttc cggcagctgt cgcaccgctt 2160  
 ccatggcaag ggctcaggca agatgaagac agagcggcgg atgaagaagc tggacgagga 2220  
 ggcgctcctg aagaagatga gctccagsga cagccctygt ggcaccgtgg cctgytcca 2280  
 ggagaagcag aaggctcaga agacccccta catygtgttc agcggcagcg gcaagagcat 2340  
 gaacgcgaac accatcacca agtgacagcg cctcccgcc cgggcctgc ctcaaccttc 2400  
 atattaaata aagctccctc cttaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2460

<210> 176

<211> 563

<212> PRT

<213> Homo sapiens

<400> 176

Met Thr Ala Thr Arg Pro Leu Pro Ala Pro Lys Leu Ala Gln Ala Met  
 1 5 10 15

Pro Pro His Ser Ala Ser Arg Glu Thr Asn Lys Leu Arg Ala Lys Leu  
 20 25 30

Gly Leu Lys Pro Leu Glu Val Asn Ala Ile Lys Lys Glu Ala Gly Thr  
 35 40 45

Lys Glu Glu Pro Val Thr Ala Asp Val Ile Asn Pro Met Ala Leu Arg  
 50 55 60

Gln Arg Glu Glu Leu Arg Glu Lys Leu Ala Ala Ala Lys Glu Lys Arg  
 65 70 75 80

Leu Leu Asn Gln Lys Leu Gly Lys Ile Lys Thr Leu Gly Glu Asp Asp  
 85 90 95

Pro Trp Leu Asp Asp Thr Ala Ala Trp Ile Glu Arg Ser Arg Gln Leu  
 100 105 110

Gln Lys Glu Lys Asp Leu Ala Glu Lys Arg Ala Lys Leu Leu Glu Glu  
 115 120 125

Met Asp Gln Lys Phe Gly Val Ser Thr Leu Val Glu Glu Glu Phe Gly  
 130 135 140

Gln Arg Arg Gln Asp Leu Tyr Ser Ala Arg Asp Leu Gln Gly Leu Thr  
 145 150 155 160

Val Glu His Ala Ile Asp Ser Phe Arg Glu Gly Glu Thr Met Ile Leu  
 165 170 175

Thr Leu Lys Asp Lys Gly Val Leu Gln Glu Glu Glu Asp Val Leu Val  
 180 185 190

Asn Val Asn Leu Val Asp Lys Glu Arg Ala Glu Lys Asn Val Glu Leu  
 195 200 205



Arg Lys Lys Lys Pro Asp Tyr Leu Pro Tyr Ala Glu Asp Glu Ser Val  
 210 215 220  
 Asp Asp Leu Ala Gln Gln Lys Pro Arg Ser Ile Leu Ser Lys Tyr Asp  
 225 230 235 240  
 Glu Lys Leu Glu Gly Glu Arg Pro His Ser Phe Arg Leu Glu Gln Gly  
 245 250 255  
 Gly Thr Ala Asp Gly Leu Arg Glu Arg Glu Leu Glu Glu Ile Arg Ala  
 260 265 270  
 Lys Leu Arg Leu Gln Ala Gln Ser Leu Ser Thr Val Gly Pro Arg Leu  
 275 280 285  
 Ala Ser Glu Tyr Leu Thr Pro Glu Glu Met Val Thr Phe Lys Lys Thr  
 290 295 300  
 Lys Arg Arg Val Lys Lys Ile Arg Lys Lys Glu Lys Glu Val Val Val  
 305 310 315 320  
 Arg Ala Asp Asp Leu Leu Pro Leu Gly Asp Gln Thr Gln Asp Gly Asp  
 325 330 335  
 Phe Gly Ser Arg Leu Arg Gly Arg Gly Arg Arg Arg Val Ser Glu Val  
 340 345 350  
 Glu Glu Glu Lys Glu Pro Val Pro Gln Pro Leu Pro Ser Asp Asp Thr  
 355 360 365  
 Arg Val Glu Asn Met Asp Ile Ser Asp Glu Glu Glu Gly Gly Ala Pro  
 370 375 380  
 Pro Pro Gly Ser Pro Gln Val Leu Glu Glu Asp Glu Ala Glu Leu Glu  
 385 390 395 400  
 Leu Gln Lys Gln Leu Glu Lys Gly Arg Arg Leu Arg Gln Leu Gln Gln  
 405 410 415  
 Leu Gln Gln Leu Arg Asp Ser Gly Glu Lys Val Val Glu Ile Val Lys  
 420 425 430  
 Lys Leu Glu Ser Arg Gln Arg Gly Trp Glu Glu Asp Glu Asp Pro Glu  
 435 440 445  
 Arg Lys Gly Ala Ile Val Phe Asn Ala Thr Ser Glu Phe Cys Arg Thr  
 450 455 460  
 Leu Gly Glu Ile Pro Thr Tyr Gly Leu Ala Gly Asn Arg Glu Glu Gln  
 465 470 475 480  
 Glu Glu Leu Met Asp Phe Glu Arg Asp Glu Glu Arg Ser Ala Asn Gly  
 485 490 495  
 Gly Ser Glu Ser Asp Gly Glu Glu Asn Ile Gly Trp Ser Thr Val Asn  
 500 505 510  
 Leu Asp Glu Glu Lys Gln Gln Gln Asp Val Arg Ala Thr Pro Leu Gly  
 515 520 525

Gly Gly Arg Leu Gly Val Leu Lys Leu Glu Met Ser Thr Gly Leu Gly  
530 535 540

Val Gln Ser Leu Ser Leu Leu Ile Gln Ser Gly Leu Cys Arg Pro Pro  
545 550 555 560

Arg Ala Ile

<210> 177  
<211> 1790  
<212> DNA  
<213> Homo sapiens

<400> 177  
ctgggtaccca cccctgtctc tggactttctt tatgaacact gagtatttga ctccccaccc 60  
ttcatgggtca gtccttttta acaccctaga tatcattgct gtccttttca ttgacatgct 120  
agagacattt ccaattttca tgggagtcag taagatagag atgatgaaaa ttcagagtgt 180  
tcaaagaaag aggaggcctc atcagttgat agaataatac acagattgtc taatctcagt 240  
tttcttctact tttctaccca ttacagtggg aaaaagaacc cttaaggaag ccagtgtctc 300  
tcaacattgg ttacaaaacc atcagtgcca gcacttaatt taaaatcttc tgaaaatcca 360  
tcagtttggtt ttcatgtctc actctaaaact cagctccaac caggctgctt cctagattct 420  
tgtctgtgtg tgtttctgtt ttggctcttt gttacttctt tctgtaaaact taagtaaact 480  
cagtttggtt acctagttaa ttgattcttt ccattttcta tactattcac cagcatatca 540  
aagatgcttc ttccctaactc tgatttccag agtaactgtg ctatcagctt ttcataactaa 600  
gaactagggt tttacctttt cacatttctt gcctcctacc cagttcgtaa gccaaattag 660  
actcgtactc ttgtgaagtg cccttttagat actagtgtaa aatataactgc gtaattcttc 720  
attgccctac atatatataac cctttaagaa aatatatcac cagtctattt tatcttcgca 780  
gaacttgccc aggtatgagc cagcatttat taccactcat tctagaaggt gccagttagg 840  
tagctatcca ggtttacatt ttaaggcagt cgagacctta ttcacgtggt atataaaca 900  
ccacatttct cttttatatg gaacaagact tttcatttgc ggctggcctt ctcactagct 960  
tatgcttttt ttttttaaga cctttcttag cactcgtgta actcctcccc ctcacaatca 1020  
atctcagcaa ctcagcagag tcgcttcagt tcacagctct taatccttca ctccagacta 1080  
aagctaattt tatgtcctca aacagctaca actcactggt atcacagttc cgactgcaga 1140  
gactccattt aagaggaaat ttaaaaaata aacaatgctc tatttctgtc cacatcaaag 1200  
gtacctctaa cagaaacttg tctttgcttc tgcctctctg ctactggact ctcagctcaa 1260  
ggtaatgtaa gatgatctca tagatgcact ttagcctctt gatggttagca gttgagtcct 1320  
ccctgcgcac aaaatacatt tgtggtaatg aatgcccaga atctcactgg cacacccaag 1380  
agtagttaaa ctaaaattgc tactaacaca acattgtaga attcgttgcc ttaatggatg 1440  
tgatcttcta ggcttactgt gtcttaacaa gcagtcttat atatatattt cttgccaga 1500  
aagtacactt gtagaattta acatttgctc ctttctccaa acagattaaa ggttatgcag 1560  
ctgaatgatt ctgtgtccca ttttaaagggt ccaggctatc ccctagattt agattagtct 1620  
ctaaaaaatc ttccagctctg aatcctgaca aatggatagc taaattaatt tccactcctc 1680  
ttctctcttg cactgttttg tacattacag ccaccattag ccttaaaagc tgcagcagcc 1740  
aaattcgggtg acagtaacat aaagcctgag cttaaaaaaa aaaaaaaaaa 1790

<210> 178  
<211> 115  
<212> PRT  
<213> Homo sapiens

<400> 178  
Met Glu Gln Asp Phe Ser Phe Ala Ala Gly Leu Leu Thr Ser Leu Cys  
1 5 10 15

Phe Phe Phe Leu Arg Pro Phe Leu Ala Leu Ala Glu Leu Leu Pro Leu  
20 25 30

Thr Ile Asn Leu Ser Asn Ser Ala Glu Ser Leu Gln Phe Thr Ala Leu

35                                      40                                      45  
 Asn Pro Ser Leu Gln Thr Lys Ala Asn Leu Met Ser Ser Asn Ser Tyr  
     50                                      55                                      60  
 Asn Ser Leu Leu Ser Gln Phe Arg Leu Gln Arg Leu His Leu Arg Gly  
     65                                      70                                      75                                      80  
 Asn Leu Lys Asn Lys Gln Cys Ser Ile Ser Val His Ile Lys Gly Thr  
                     85                                      90                                      95  
 Ser Asn Arg Asn Leu Ser Leu Leu Leu Ser Leu Cys Tyr Trp Thr Leu  
                     100                                      105                                      110  
 Ser Ser Arg  
                     115

&lt;210&gt; 179

&lt;211&gt; 2026

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 179

cattgagttg ccctaacaac attgtctcca gtgtcagaac catattaagg ttcgtttctc 60  
 agattgggag cctgcaacac catacagcca acattgcctt tgccacgcca ctgccaccat 120  
 cccaccatt gccctatggt gggcagatga attccagaaa ccctcaggga gccaggataa 180  
 ttaggcaacc catctgaatt ggccacgtaa gtgacaggca cttatctctc gggttcttgc 240  
 ttttgcagac tccagggaag tcctgtctag aggtcgatgg cagagactcc tactctttcc 300  
 catgaggggt tgataggaat caaattggga ttcttttggc ttgggtttt gtttttttgt 360  
 tgttgccttt ggttttcagt ttgttttttg gtgtatggg ggtgattttg tttctgaata 420  
 agaaaaagaa gaggaacca tggcccttat gtgggtttat cctttttgag caatgtttta 480  
 gccacaagta aggaatcttg aaagtctttt gtccagcaag cagtcttaaa aatgtttttc 540  
 ctaactcctt ttgcagggtga ctaagtacaa aaaaatagtt ttctcattgt attcaaaata 600  
 gtgagtaggt tccctggata atacacagtg gtagttgaca tattttctca aaacacaacc 660  
 agaaaaccca cttccggtat ttgtaaatca cttttcaagg gaaaaagtga acacgtattc 720  
 cttgtatttc tagtttgatt accaaacctg atgttacaaa gaaacctccg ttctgtagac 780  
 agaattttct ttatttttct tcttttactc ctcacaatca ctttcccagt gccatcacca 840  
 tctataaggt ctcagagcag aggattattc atggtaataa gtgggggtgt ggtgcagcca 900  
 tcccagtaac acccacaaga ggacagctgt tctgaatgtc cccaccacc cctctttcag 960  
 tacaggtagg acattttcag ttcattgagc ccagaccaa tcccaggcca gcccttgac 1020  
 caaaagcctt ttttagaagg cttatcagtc tattaggaat gtctcaggaa agatgagcca 1080  
 tttctttggg gagaaatata ttacagatg gaagtgtgtg actgcgtgtc tgtgtgtgtg 1140  
 tgtggtgtgt gtgcgcacgt gagtgcgtgt gtctatctat gtgcatttca cttccataaa 1200  
 gaccagccc aagctgctgg gaaccatgtg ttcttgagta ttctcagagg ttaacaagt 1260  
 gacaagttag cttctgaaat tagtgtctca gcaagctggc tttaggaatg agccccattt 1320  
 tatcaagcag agaaaaaaaa taacagcaga aaagataaag ataaaccaa aatatatacc 1380  
 cccaatgga aaataatgtt gattcagcaa tcccataagg atgtattaca tgctctaatt 1440  
 tattatatta ttatttatct gtctttgatc tttgccatt gtactcttaa aaagatgttg 1500  
 ggatgttgat tgcgattttt aaacaactag ataatgtata aatcagcagt ggaaatcagt 1560  
 tttaatgtgt ggatgtgtct gattattgtt aaatgcctct ttttttactt tttttttttt 1620  
 tagatgtata atgtttcata aaccctggca ctggtcacaa agctcagctg tgaaaatgaa 1680  
 attttagtag tttttaaaca tgaatgtcaa tttcaagtgt atttgaaatg gttcctccag 1740  
 gagagatatt tgtgcacat taggaaaatc ttctctgcag aggaagtagc cttctttgga 1800  
 gaaaatggaa aatgggttct gatatgtgat ctcagagtag ccattttcct agggcaccat 1860  
 ggaaaacaca aatgtgatct ttaagtatac ctcttcccca gtttggggag gaaaggactc 1920  
 agtttgcacc ctttttgtat gtaaaataaa atgtcttacc tttcttggtt aaaaaaaaaa 1980  
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2026

&lt;210&gt; 180

<211> 52  
 <212> PRT  
 <213> Homo sapiens

<400> 180

Met Leu Gln Arg Asn Leu Arg Ser Val Asp Arg Ile Ser Phe Ile Phe  
 1 5 10 15  
 Leu Leu Leu Leu Leu Thr Ile Thr Phe Pro Val Pro Ser Pro Ser Ile  
 20 25 30  
 Arg Ser Gln Ser Arg Gly Leu Phe Met Val Ile Ser Gly Gly Val Val  
 35 40 45  
 Gln Pro Phe Gln  
 50

<210> 181  
 <211> 1138  
 <212> DNA  
 <213> Homo sapiens

<400> 181

gggtctgtgg agagccgggt gcgagcggcg gcagcacgag gggaaaagag ctgagcggag 60  
 accaaagtca gccgggagac agtgggtctg tgagagaccg aatagagggg ctggggccac 120  
 gagcgccatt gacaagcaat ggggaagaaa cagaaaaaca agagcgaaga cagcaccaag 180  
 gatgacattg atcttgatgc cttggctgca gaaatagaag gagctggtgc tgccaaagaa 240  
 caggagcctc aaaagtcaaa agggaaaaag aaaaaagaga aaaaaagca ggactttgat 300  
 gaagatgata tcctgaaaga actggaagaa ttgtcttttg aagctcaagg catcaaagct 360  
 gacagagaaa ctgttgacgt gaagccaaca gaaaacaat aagaggaatt cacctcaaaa 420  
 gataaaaaaa agaaaggaca gaagggcaaa aaacagagtt ttgatgataa tgatagcgaa 480  
 gaattggaag ataaagattc aaaatcaaaa aagactgcaa aaccgaaagt ggaaatgtac 540  
 tctgggagtg atgatgatga tgattttaac aaacttccta aaaaagctaa agggaaagct 600  
 caaaaatcaa ataagaagtg ggatgggtca gaggaggatg aggataacag taaaaaaatt 660  
 aaagagcggt caagaataaa ttcttctggt gaaagtgggt atgaatcaga tgaatttttg 720  
 caatctaaaa ggacagaaaa aaaatcagaa aaacaagcca ggctctaaca tagaaagtgg 780  
 gaatgaagat gatgacgcct ctttcaaaa taagacagtg gcccacaaaga aggcagaaaa 840  
 gaaggagcgc gagagaaaa agcgagatga agaaaaagcg aaactgcgga agctgaaaga 900  
 aaaagaagag ttgaaacag gtaaaaagga tcagagtaaa caaaaggaat ctcaaaggaa 960  
 atttgaagaa gaaactgtaa aatccaaagt gactgttgat actggagtaa ttctgcctc 1020  
 tgaagagaaa gcagagactc ccacagctgc agaagatgac aatgaaggag acaaaaagaa 1080  
 gaaagataag aagaaaaaga aaggagaaaa ggaagaaaaa gagaaaaaaa aaaaaaaa 1138

<210> 182  
 <211> 209  
 <212> PRT  
 <213> Homo sapiens

<400> 182

Met Gly Lys Lys Gln Lys Asn Lys Ser Glu Asp Ser Thr Lys Asp Asp  
 1 5 10 15  
 Ile Asp Leu Asp Ala Leu Ala Ala Glu Ile Glu Gly Ala Gly Ala Ala  
 20 25 30  
 Lys Glu Gln Glu Prc Gln Lys Ser Lys Gly Lys Lys Lys Lys Glu Lys  
 35 40 45  
 Lys Lys Gln Asp Phe Asp Glu Asp Asp Ile Leu Lys Glu Leu Glu Glu

50	55	60
Leu Ser Leu Glu Ala Gln Gly Ile Lys Ala Asp Arg Glu Thr Val Ala		
65	70	75 80
Val Lys Pro Thr Glu Asn Asn Glu Glu Glu Phe Thr Ser Lys Asp Lys		
	85	90 95
Lys Lys Lys Gly Gln Lys Gly Lys Lys Gln Ser Phe Asp Asp Asn Asp		
	100	105 110
Ser Glu Glu Leu Glu Asp Lys Asp Ser Lys Ser Lys Lys Thr Ala Lys		
	115	120 125
Pro Lys Val Glu Met Tyr Ser Gly Ser Asp Asp Asp Asp Asp Phe Asn		
	130	135 140
Lys Leu Pro Lys Lys Ala Lys Gly Lys Ala Gln Lys Ser Asn Lys Lys		
	145	150 155 160
Trp Asp Gly Ser Glu Glu Asp Glu Asp Asn Ser Lys Lys Ile Lys Glu		
	165	170 175
Arg Ser Arg Ile Asn Ser Ser Gly Glu Ser Gly Asp Glu Ser Asp Glu		
	180	185 190
Phe Leu Gln Ser Lys Arg Thr Glu Lys Lys Ser Glu Lys Gln Ala Arg		
	195	200 205

Ser

<210> 183  
 <211> 912  
 <212> DNA  
 <213> Homo sapiens

<400> 183  
 atccagctct ttcagagaga agagatggga ataagataag aacatcattt cctgaagagt 60  
 ttactaagtt gatgttttct tttggtgaag ggcaatgttg aatttaaate atatagttca 120  
 tgtgtgcacc tgtctgcag tttgaggcag atgattttta accagcatct atagacactt 180  
 cctgtgaagg agagcttcaa gttggcaaag gagatgaagt cacaattaca ctgccacata 240  
 tccctagctg agggcagcag taaaatccag gcccgaaatg aacagcagcc cactcgtcct 300  
 ccacagacgt cacagccacc accacctcca ccacctatgc cattcagagc tccaacgaag 360  
 cctccagttg gacccaaaac ttctcccttg aaagataacc cgtcacctga acctcagttg 420  
 gatgacatca aaagagagct gagggctgaa gttgacatta ttgaacaaat gagcagcagc 480  
 agtgggagca gctcttcaga ctctgagagc tcttcgggaa gtgatgacga tagctccagc 540  
 agtggaggsg aggamaatgg cccagcytct cytccgcagc yttmacacca gcagccytac 600  
 aacagtaggc ctgccgttgc caatggaacc agccggccac aaggaagcaa ccagytyatg 660  
 aacaccctca gaaatgactt gcagttgagt gagtytgga gtgacagtga tgactagtgc 720  
 tggatytctt gaaacctact ttttggtgca caaacatgcc gcaagactga gctactttgg 780  
 ccgtggagtc cattgcaaga ggaaaatggt atggatcagt gactgtagta ggagtttgag 840  
 gctytggaac tctcacatat tcaagtcttt aacttagtgg tgatgggtga aaaaaaaaaa 900  
 aaaaaaaaaa aa 912

<210> 184  
 <211> 167  
 <212> PRT  
 <213> Homo sapiens

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (114)

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (120)

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (123)..(124)

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (148)

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (161)

&lt;400&gt; 184

Met Lys Ser Gln Leu His Cys His Ile Ser Leu Ala Glu Gly Ser Ser  
 1 5 10 15

Lys Ile Gln Ala Arg Met Glu Gln Gln Pro Thr Arg Pro Pro Gln Thr  
 20 25 30

Ser Gln Pro Pro Pro Pro Pro Pro Pro Met Pro Phe Arg Ala Pro Thr  
 35 40 45

Lys Pro Pro Val Gly Pro Lys Thr Ser Pro Leu Lys Asp Asn Pro Ser  
 50 55 60

Pro Glu Pro Gln Leu Asp Asp Ile Lys Arg Glu Leu Arg Ala Glu Val  
 65 70 75 80

Asp Ile Ile Glu Gln Met Ser Ser Ser Ser Gly Ser Ser Ser Ser Asp  
 85 90 95

Ser Glu Ser Ser Ser Gly Ser Asp Asp Asp Ser Ser Ser Ser Gly Gly  
 100 105 110

Glu Xaa Asn Gly Pro Ala Ser Xaa Pro Gln Xaa Xaa His Gln Gln Pro  
 115 120 125

Tyr Asn Ser Arg Pro Ala Val Ala Asn Gly Thr Ser Arg Pro Gln Gly  
 130 135 140

Ser Asn Gln Xaa Met Asn Thr Leu Arg Asn Asp Leu Gln Leu Ser Glu  
 145 150 155 160

Xaa Gly Ser Asp Ser Asp Asp  
 165

&lt;210&gt; 185

&lt;211&gt; 4582

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 185

```

ggatgaagcta atcaaactctg gttcctatgt agctctcact gttcagggac gccacactgg 60
gtcgccccag attccacttg cgcactctga agtagagccg tcagtcattg gacatatgtc 120
tcccatcatg acatctcctc attcacctgg agcatctggg aatatggaga gaactactag 180
tctgtgtctc atgggggagg aaaacaatgt ggttcataac cagaaaagtag aaattctgag 240
aaaaatgtta cagaaagaac aggaacggct acagttattg caggaagatt acaaccgaac 300
acctgcccac agattgctaa aagagatcca agaggccaag aaacacattc ctcagctgca 360
agagcagtta tccaaagcca caggctctgc tcaggatgga gctgtagtta caccctccag 420
acctttaggg gacaccctaa cagtcagtga ggcagaaaac gatcctggag atgtactggg 480
caggactgac tgtagcagtg gagatgcttc tcggcccagt agtgacaatg cagatagtcc 540
caagagtggc ccaaaagaga gaatttatct cagggaaaaa ccagagaaaa gtgaaacaat 600
tcaggacact gacactcaat cacttgctcg aagtcctca acccgatatg cacctcatat 660
tattggagca gaagatgatg attttggtac tgaacatgaa cagatcaatg gacagtgcag 720
ctgtttccag agcattgaat tactaaaatc tcgcccggct catttggtcg ttttcttaca 780
ccatgtagtt tcacaatttg acctgctgac tttgctctgt tatctctatt cagacctgta 840
taaacatacc aattccaaag aaactcgtcg catcttcctt gagtttctatc agttctttct 900
aaatcgatca gcacacctga aagtttctgt tcttgatgaa atgtctgcag atctagaaaa 960
gagaagacct gagctcattc ctgaggatct gcacgcccac tatatccaaa ctatgcaaga 1020
aagagtccat ccagaagtcc aaaggcactt aaaagatttt cggcagaaac gtagtatggg 1080
actgaccttg gctgaaagcg agctgactaa acttgatgca gagcgagaca aggaccgatt 1140
gactttggag aaggagcgga catgtgcaga acagattggt gccaaaattg aagaagtatt 1200
gatgaytgct caggctgtar aggaagataa gagctccacc atgcagtatg ttattctcat 1260
gtatatgaag catttgggag taaaagtgaag agagcctcga aatttggagc acaaacgggg 1320
tcggattgga tttcttccca aaatcaagca aagtatgaag aaagataaag aaggggaaga 1380
aaaagggaag cgaagaggat tcccagcat cctgggacct ccacggagac caagccgtca 1440
tgacaacagt gcaattggca gagccatgga actacagaag gcgcgccacc ctaagcactt 1500
atccacaccc tcatctgtga gtccatgaacc tcaggactct gccaaagtgc gccagagtgg 1560
gttagcaaat gaaggaacag acgctggata cctgcctgcc aattccatgt cttctgtage 1620
ttcaggggac tctttttccc aggaaggagg gaaagagaat gatacaggat caaagcaagt 1680
tgagagaaca tcagcacctg gagacacctt agatggcaca cctcgtactc tcaatactgt 1740
ctttgatctc ccaccacctc cattagacca agtgaggag gaggaatgtg aagtagaaaag 1800
ggtgactgaa catgggacac caaagccctt tcgaaagttt gacagtgtag cttttggaga 1860
aagtcaaagt gaggatgaac aatttgaaaa tgacttagag acagatccac ccaactggca 1920
gcagcttggt agtcgagaag tgttactggg actaaaacct tgtgaaatca aaagacagga 1980
agtgattaat gaattgttct acactgaaag agtcatgtt cgaacactga aggttcttga 2040
tcaagtgttc tatcagcgag tatccagaga aggaattctg tcacctcag agctacggaa 2100
aattttttca aacttggaag atattcttca acttcatatt ggattgaatg aacaaatgaa 2160
ggctgttcga aagagaaatg agacctctgt tatcgatcag attggggaag atttgctgac 2220
atggttcagc ggaccaggag aggagaaatt gaaacatgct gctgctacct tttgcagtaa 2280
ccaaccttcc gccctggaaa tgatcaaatc tcgtcagaaa aaggattctc gatttcagac 2340
ttttgtgcaa gatgctgaaa gtaatccact gtgtcgtcgt cttcaactga aggatattat 2400
tcccactcaa atgcaaaggc ttactaagta cccacttctg ttggataata ttgccaata 2460
cacagaatgg ccaacagaaa gggagaaggt gaagaaagct gcagatcact gtcgtcagat 2520
cttaaattat gtaaatcagg ctgtcaagga ggcagaaaac aagcagcgcc tagaagatta 2580
tcagcgtcgc cttgatacct ccagcctgaa gttgtcagag taccctaatg ttgaagagct 2640
caggaatttg gatttaacaa aaaggaagat gattcatgaa gggccattgg tttggaaggt 2700
gaatagagat aaaactattg atttatacac gttgctgctg gaagacattc ttgtattggt 2760
acaaaagcag gatgatagac tggttttaag gtgtcatagt aagattctgg catctacagc 2820
tgatagcaaa cacacgttta gccctgtcat taagttgagt acagtgttgg ttcgacaagt 2880
ggcaacagat aacaaagctt tattcgtcat ttccatgtca gacaatggcg ctcagattta 2940
tgaaactggg gcacagacag tttctgaaaa gactgtctgg caggacctaa tctgtcggat 3000
ggctgcatca gtgaaggagc aatccacaaa gccgattcca ttaccacagt caacacctgg 3060
cgaaggagat aatgatgaag aagatccttc aaaattaaaa gaggagcagc atggcatttc 3120
agtcactggt ttgcagagtc cagacagaga tttgggatta gaatctacct taatatcgtc 3180
aaaacctcag tctcattcac tgagtacctc tgggaaatca gaggtagctg atctgtttgt 3240
ggctgagaga cagtttgcaa aggaacaaca tacagatggg aactaaagg aagttggaga 3300
agattatcaa atcgcaatcc cagattcaca cctgcctgtc tcagaagaac ggtgggcatt 3360
ggatgcacta agaaatttgg gtttgttgaa gcagttgctg gtgcaacagc taggtttgac 3420
tgagaagagc gttcaggaag actggcaaca tttcccaaga tacagaacag cctctcaggg 3480

```

```

gccgcagaca gacagtgtca tccagaactc tgaaaatatt aaggcctatc attctggtga 3540
aggacatatg ccctttagaa ctggaactgg tgacattgca acttgttaca gtccacggac 3600
ttcaactgaa tcttttgctc cacgggattc agtgggactg gcacccagg atagccaggc 3660
aagtaacatt ttagtaatgg accacatgat tatgaccca gagatgccta ccatggagcc 3720
agaaggggtg cttgatgaca gtggagagca cttttttgat gccctgaag cacatagtga 3780
tgagaatcca tcagaagggtg atggagcagt taacaaggaa gagaaggatg ttaatttacg 3840
catctcagga aactatttga tccttgatgg ctatgaccca gtgcaggaga gttccacaga 3900
tgaggaggtt gcttcctcac ttaccctgca gcccatgaca ggcacccctg ctgtggaatc 3960
caccaccag cagcaacatt ctctcagaa tactactcc gatggggcaa tttcaccatt 4020
cacccecgaa tttctggtcc agcagcgtg gggagctatg gagtattcct gttttgagat 4080
ccagagtccc tctcttgtg cagattcaca gagccagatc atggagtaca ttcataagat 4140
agaggctgac cttgaacact taaaggaagg tggaggaaag ttaacaccat tctttgcaa 4200
aggctggctg gatcagccct cacagacaag cactcagata aaagttagag ccgcatgtcc 4260
tggaggtgac tgcaggttgt tggatttga gtatcgccg tgtctacca catcctggct 4320
ccagtgtgga tgcagagaga gtgtgacaga ggatctgcct gtgaaccacc tgggattagt 4380
caagtcccaa ggtgccca gtagggactag tttttcacag tgtggcagct gcactaatct 4440
gtttgtgagg gaatatccat tcctcactc tactctctc actatcgaa attcattttg 4500
attcagaata aaaaccaa gtatagagct ttgggttga ggatatgaa ttgtacttag 4560
atttaagaaa aaaaaaaaaa aa 4582

```

<210> 186  
 <211> 1461  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> UNSURE  
 <222> (364)

<220>  
 <221> UNSURE  
 <222> (369)

<220>  
 <221> UNSURE  
 <222> (1433)

<400> 186  
 Met Ser Pro Ile Met Thr Ser Pro His Ser Pro Gly Ala Ser Gly Asn  
 1 5 10 15  
 Met Glu Arg Ile Thr Ser Pro Val Leu Met Gly Glu Glu Asn Asn Val  
 20 25 30  
 Val His Asn Gln Lys Val Glu Ile Leu Arg Lys Met Leu Gln Lys Glu  
 35 40 45  
 Gln Glu Arg Leu Gln Leu Leu Gln Glu Asp Tyr Asn Arg Thr Pro Ala  
 50 55 60  
 Gln Arg Leu Leu Lys Glu Ile Gln Glu Ala Lys Lys His Ile Pro Gln  
 65 70 75 80  
 Leu Gln Glu Gln Leu Ser Lys Ala Thr Gly Ser Ala Gln Asp Gly Ala  
 85 90 95  
 Val Val Thr Pro Ser Arg Pro Leu Gly Asp Thr Leu Thr Val Ser Glu  
 100 105 110  
 Ala Glu Thr Asp Pro Gly Asp Val Leu Gly Arg Thr Asp Cys Ser Ser



115					120					125									
Gly	Asp	Ala	Ser	Arg	Pro	Ser	Ser	Asp	Asn	Ala	Asp	Ser	Pro	Lys	Ser				
130					135					140									
Gly	Pro	Lys	Glu	Arg	Ile	Tyr	Leu	Glu	Glu	Asn	Pro	Glu	Lys	Ser	Glu				
145					150					155					160				
Thr	Ile	Gln	Asp	Thr	Asp	Thr	Gln	Ser	Leu	Val	Gly	Ser	Pro	Ser	Thr				
165					170					175									
Arg	Ile	Ala	Pro	His	Ile	Ile	Gly	Ala	Glu	Asp	Asp	Asp	Phe	Gly	Thr				
180					185					190									
Glu	His	Glu	Gln	Ile	Asn	Gly	Gln	Cys	Ser	Cys	Phe	Gln	Ser	Ile	Glu				
195					200					205									
Leu	Leu	Lys	Ser	Arg	Pro	Ala	His	Leu	Ala	Val	Phe	Leu	His	His	Val				
210					215					220									
Val	Ser	Gln	Phe	Asp	Pro	Ala	Thr	Leu	Leu	Cys	Tyr	Leu	Tyr	Ser	Asp				
225					230					235					240				
Leu	Tyr	Lys	His	Thr	Asn	Ser	Lys	Glu	Thr	Arg	Arg	Ile	Phe	Leu	Glu				
245					250					255									
Phe	His	Gln	Phe	Phe	Leu	Asn	Arg	Ser	Ala	His	Leu	Lys	Val	Ser	Val				
260					265					270									
Pro	Asp	Glu	Met	Ser	Ala	Asp	Leu	Glu	Lys	Arg	Arg	Pro	Glu	Leu	Ile				
275					280					285									
Pro	Glu	Asp	Leu	His	Arg	His	Tyr	Ile	Gln	Thr	Met	Gln	Glu	Arg	Val				
290					295					300									
His	Pro	Glu	Val	Gln	Arg	His	Leu	Lys	Asp	Phe	Arg	Gln	Lys	Arg	Ser				
305					310					315					320				
Met	Gly	Leu	Thr	Leu	Ala	Glu	Ser	Glu	Leu	Thr	Lys	Leu	Asp	Ala	Glu				
325					330					335									
Arg	Asp	Lys	Asp	Arg	Leu	Thr	Leu	Glu	Lys	Glu	Arg	Thr	Cys	Ala	Glu				
340					345					350									
Gln	Ile	Val	Ala	Lys	Ile	Glu	Glu	Val	Leu	Met	Xaa	Ala	Gln	Ala	Val				
355					360					365									
Xaa	Glu	Asp	Lys	Ser	Ser	Thr	Met	Gln	Tyr	Val	Ile	Leu	Met	Tyr	Met				
370					375					380									
Lys	His	Leu	Gly	Val	Lys	Val	Lys	Glu	Pro	Arg	Asn	Leu	Glu	His	Lys				
385					390					395					400				
Arg	Gly	Arg	Ile	Gly	Phe	Leu	Pro	Lys	Ile	Lys	Gln	Ser	Met	Lys	Lys				
405					410					415									
Asp	Lys	Glu	Gly	Glu	Glu	Lys	Gly	Lys	Arg	Arg	Gly	Phe	Pro	Ser	Ile				
420					425					430									
Leu	Gly	Pro	Pro	Arg	Arg	Pro	Ser	Arg	His	Asp	Asn	Ser	Ala	Ile	Gly				

435	440	445
Arg Ala Met Glu Leu Gln Lys	Ala Arg His Pro Lys	His Leu Ser Thr
450	455	460
Pro Ser Ser Val Ser Pro Glu Pro Gln Asp Ser Ala Lys Leu Arg Gln		
465	470	475
Ser Gly Leu Ala Asn Glu Gly Thr Asp Ala Gly Tyr Leu Pro Ala Asn		
485	490	495
Ser Met Ser Ser Val Ala Ser Gly Ala Ser Phe Ser Gln Glu Gly Gly		
500	505	510
Lys Glu Asn Asp Thr Gly Ser Lys Gln Val Gly Glu Thr Ser Ala Pro		
515	520	525
Gly Asp Thr Leu Asp Gly Thr Pro Arg Thr Leu Asn Thr Val Phe Asp		
530	535	540
Phe Pro Pro Pro Pro Leu Asp Gln Val Gln Glu Glu Glu Cys Glu Val		
545	550	555
Glu Arg Val Thr Glu His Gly Thr Pro Lys Pro Phe Arg Lys Phe Asp		
565	570	575
Ser Val Ala Phe Gly Glu Ser Gln Ser Glu Asp Glu Gln Phe Glu Asn		
580	585	590
Asp Leu Glu Thr Asp Pro Pro Asn Trp Gln Gln Leu Val Ser Arg Glu		
595	600	605
Val Leu Leu Gly Leu Lys Pro Cys Glu Ile Lys Arg Gln Glu Val Ile		
610	615	620
Asn Glu Leu Phe Tyr Thr Glu Arg Ala His Val Arg Thr Leu Lys Val		
625	630	635
Leu Asp Gln Val Phe Tyr Gln Arg Val Ser Arg Glu Gly Ile Leu Ser		
645	650	655
Pro Ser Glu Leu Arg Lys Ile Phe Ser Asn Leu Glu Asp Ile Leu Gln		
660	665	670
Leu His Ile Gly Leu Asn Glu Gln Met Lys Ala Val Arg Lys Arg Asn		
675	680	685
Glu Thr Ser Val Ile Asp Gln Ile Gly Glu Asp Leu Leu Thr Trp Phe		
690	695	700
Ser Gly Pro Gly Glu Glu Lys Leu Lys His Ala Ala Ala Thr Phe Cys		
705	710	715
Ser Asn Gln Pro Phe Ala Leu Glu Met Ile Lys Ser Arg Gln Lys Lys		
725	730	735
Asp Ser Arg Phe Gln Thr Phe Val Cln Asp Ala Glu Ser Asn Pro Leu		
740	745	750
Cys Arg Arg Leu Gln Leu Lys Asp Ile Ile Pro Thr Gln Met Gln Arg		

755	760	765
Leu Thr Lys Tyr Pro Leu Leu Leu Asp Asn Ile Ala Lys Tyr Thr Glu 770 775 780		
Trp Pro Thr Glu Arg Glu Lys Val Lys Lys Ala Ala Asp His Cys Arg 785 790 795 800		
Gln Ile Leu Asn Tyr Val Asn Gln Ala Val Lys Glu Ala Glu Asn Lys 805 810 815		
Gln Arg Leu Glu Asp Tyr Gln Arg Arg Leu Asp Thr Ser Ser Leu Lys 820 825 830		
Leu Ser Glu Tyr Pro Asn Val Glu Glu Leu Arg Asn Leu Asp Leu Thr 835 840 845		
Lys Arg Lys Met Ile His Glu Gly Pro Leu Val Trp Lys Val Asn Arg 850 855 860		
Asp Lys Thr Ile Asp Leu Tyr Thr Leu Leu Leu Glu Asp Ile Leu Val 865 870 875 880		
Leu Leu Gln Lys Gln Asp Asp Arg Leu Val Leu Arg Cys His Ser Lys 885 890 895		
Ile Leu Ala Ser Thr Ala Asp Ser Lys His Thr Phe Ser Pro Val Ile 900 905 910		
Lys Leu Ser Thr Val Leu Val Arg Gln Val Ala Thr Asp Asn Lys Ala 915 920 925		
Leu Phe Val Ile Ser Met Ser Asp Asn Gly Ala Gln Ile Tyr Glu Leu 930 935 940		
Val Ala Gln Thr Val Ser Glu Lys Thr Val Trp Gln Asp Leu Ile Cys 945 950 955 960		
Arg Met Ala Ala Ser Val Lys Glu Gln Ser Thr Lys Pro Ile Pro Leu 965 970 975		
Pro Gln Ser Thr Pro Gly Glu Gly Asp Asn Asp Glu Glu Asp Pro Ser 980 985 990		
Lys Leu Lys Glu Glu Gln His Gly Ile Ser Val Thr Gly Leu Gln Ser 995 1000 1005		
Pro Asp Arg Asp Leu Gly Leu Glu Ser Thr Leu Ile Ser Ser Lys Pro 1010 1015 1020		
Gln Ser His Ser Leu Ser Thr Ser Gly Lys Ser Glu Val Arg Asp Leu 1025 1030 1035 1040		
Phe Val Ala Glu Arg Gln Phe Ala Lys Glu Gln His Thr Asp Gly Thr 1045 1050 1055		
Leu Lys Glu Val Gly Glu Asp Tyr Gln Ile Ala Ile Pro Asp Ser His 1060 1065 1070		
Leu Pro Val Ser Glu Glu Arg Trp Ala Leu Asp Ala Leu Arg Asn Leu		

1075	1080	1085
Gly Leu Leu Lys Gln Leu Leu Val Gln Gln Leu Gly Leu Thr Glu Lys 1090	1095	1100
Ser Val Gln Glu Asp Trp Gln His Phe Pro Arg Tyr Arg Thr Ala Ser 1105	1110	1115 1120
Gln Gly Pro Gln Thr Asp Ser Val Ile Gln Asn Ser Glu Asn Ile Lys 1125	1130	1135
Ala Tyr His Ser Gly Glu Gly His Met Pro Phe Arg Thr Gly Thr Gly 1140	1145	1150
Asp Ile Ala Thr Cys Tyr Ser Pro Arg Thr Ser Thr Glu Ser Phe Ala 1155	1160	1165
Pro Arg Asp Ser Val Gly Leu Ala Pro Gln Asp Ser Gln Ala Ser Asn 1170	1175	1180
Ile Leu Val Met Asp His Met Ile Met Thr Pro Glu Met Pro Thr Met 1185	1190	1195 1200
Glu Pro Glu Gly Gly Leu Asp Asp Ser Gly Glu His Phe Phe Asp Ala 1205	1210	1215
Arg Glu Ala His Ser Asp Glu Asn Pro Ser Glu Gly Asp Gly Ala Val 1220	1225	1230
Asn Lys Glu Glu Lys Asp Val Asn Leu Arg Ile Ser Gly Asn Tyr Leu 1235	1240	1245
Ile Leu Asp Gly Tyr Asp Pro Val Gln Glu Ser Ser Thr Asp Glu Glu 1250	1255	1260
Val Ala Ser Ser Leu Thr Leu Gln Pro Met Thr Gly Ile Pro Ala Val 1265	1270	1275 1280
Glu Ser Thr His Gln Gln Gln His Ser Pro Gln Asn Thr His Ser Asp 1285	1290	1295
Gly Ala Ile Ser Pro Phe Thr Pro Glu Phe Leu Val Gln Gln Arg Trp 1300	1305	1310
Gly Ala Met Glu Tyr Ser Cys Phe Glu Ile Gln Ser Pro Ser Ser Cys 1315	1320	1325
Ala Asp Ser Gln Ser Gln Ile Met Glu Tyr Ile His Lys Ile Glu Ala 1330	1335	1340
Asp Leu Glu His Leu Lys Glu Gly Gly Gly Lys Leu Thr Pro Phe Phe 1345	1350	1355 1360
Ala Lys Gly Trp Leu Asp Gln Pro Ser Gln Thr Ser Thr Gln Ile Lys 1365	1370	1375
Val Arg Ala Ala Cys Pro Gly Gly Asp Cys Arg Leu Leu Asp Leu Glu 1380	1385	1390
Tyr Arg Pro Cys Leu Thr Thr Ser Trp Leu Gln Cys Gly Cys Arg Glu		

1395

1400

1405

Ser Val Thr Glu Asp Leu Pro Val Asn His Leu Gly Leu Val Lys Ser  
 1410 1415 1420

Gln Gly Ala Gln Ser Gly Thr Ser Xaa Ser Gln Cys Gly Ser Cys Thr  
 1425 1430 1435 1440

Asn Leu Phe Val Arg Glu Tyr Pro Phe Pro His Ser Thr Leu Leu Thr  
 1445 1450 1455

Ile Gly Asn Ser Phe  
 1460

&lt;210&gt; 187

&lt;211&gt; 2837

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 187

```

tcttttgaca gatataattg ctgcttatca aagattctgt tctcgacccc caaaaggatt 60
tgaaaaatac tttcctaattg gaaaaaatgg aaaaaaagct agtgaaccta aagaagttat 120
gggagagaaa aaagaatcaa agccagctgc taccacacgc tcttctggag gaggagggtg 180
tgccggtgga aaacgagggtg gcaagaaaga tgattctcac tgggtggtcca ggtttcagaa 240
gggtgacatt ccatgggacg acaaggattt caggatgttc ttctcttggga ctgctctgtt 300
ctggggtgga gtcatgtttt acttgctgct caagagatcc gggagagaaa tcacttgga 360
ggactttgtc aataactatc tttcaaaagg agtagtagac agattggaag tcgtcaacaa 420
gcgttttggt cgagtgcact ttacaccagg aaaaactcct gttgatgggc aatacgtttg 480
gtttaatat ggcagtgtgg acacctttga acggaatctg gaaactttac agcaggaatt 540
gggcatagaa ggagaaaaat ggggtgcctgt tgtctacatt gctgaaagtg atggctcttt 600
tctgctgagc atgctgccta cgggtgctcat catcgccctc ctgctctaca ccatcagaag 660
agggcctgct ggcattggcc ggcagggccg agggatgggc ggactcttca gtgtcggaga 720
aaccactgcc aaggtcttaa aggatgaaat tgatgtgaag ttcaaagatg tggctggctg 780
tgaggaggcc aagctagaga tcatggaatt tgtgaatttc ttgaaaaacc caaagcagta 840
tcaagaccta ggagcaataa tcccaaaggg tgccattctc actggctctc caggcactgg 900
gaagacgtcg ctatgctaagg ccacagcccg agaagccaat gtcccttca tcaccgttag 960
tggtatctgag tttttggaga tgttcgttgg tgtgggccc gctagagtcc gagacttatt 1020
tgcccttgct cggagaagt ccccttgcat cctcttcatc gatgaaatcg atgagggtgg 1080
aaggaagaga ggaagaggca actttggagg gcagagttag caggagaaca cactcaacca 1140
gctgctggtg gagatggatg gttttaatac aacaacaaat gtcgtcattt tggccggcac 1200
caatcgacca ggaccaccag acataaaagg aagagcttct attttcaaag ttcatctccg 1260
accgctaaaa ctggacagta ccctggagaa ggataaattg gcaagaaaac tggcatcttt 1320
aactccaggg ttttcagggt ctgatgttgc taatgtctgt aatgaagctg cgttgattgc 1380
tgcaaggcat ctgtcagatt ccataaatca gaaacacttt gaacaggcaa ttgagcgagt 1440
gattggtggc ttaaagaaaa aaacgcaggt tctgcagcct gaggagaaaa agactgtggc 1500
ataccacgaa gcaggccatg cggttgccgg ctggtatctg gagcacgcag acccgctttt 1560
aaaggtatcc atcatccac gtggcaaagg actaggttat gctcagtatt taccaaaaga 1620
acaatacttc tataccaaag agcagctctt ggataggatg tgtatgactt taggtggctg 1680
agtctctgaa gaaatcttct ttggaagaat tacaactggt gctcaagatg acttgagaaa 1740
agtaactcag agtgcatatg cccaaattgt tcagtttggc atgaatgaaa aggttgggca 1800
aatctccttt gacctccac gtcaggggga catggtattg gagaaacctt acagtgaagc 1860
cactgcaaga ttgatagatg atgaagtacg aatacttatt aatgatgctt ataaaagaac 1920
agtactctt ctacagaaa agaaagctga cgtggagaag gttgctcttc tgttgttaga 1980
aaaagaagta ttagataaga atgatattgt tgaacttttg ggccccagac catttgcgga 2040
aaaatctacc tatgaagaat ttgtggaagg cactggcagc ttggatgagg acacctcact 2100
tccagaaggc cttaggact ggaacaagga gcgggaaaag gagaaagagg agccccggg 2160
tgagaaagtt gccaactaga ggcccagagg gagccatct cagtctgtcc actgtggttt 2220
cagctggtgc attatttcag ctgtggcttt cagaagaatg ggaatgctgc gctgatttta 2280
gccagccact ggcccagctg aaatgatggg gaaaggagtc cttagtcctt tcagcctcag 2340

```

```

aggtcacagt ggggtggcagg tgactttccg gaggccttga gggaaatgca cactgtccca 2400
tagcctcatt ggggtcccag acgtgctgga aaggttgagc ccagagtggc cgaggctgga 2460
ccctgtggca ccaagtggg tgggtgacc gtgtggcagg gattgttgca mtggawtttt 2520
ggcgtgtggg aagggatgct tttttttgt cgccayttt tcattcctgt ttttcctcag 2580
ttcccckgkg cagatgggct gtgaaattaa attggagttt tgataagaac attttaattt 2640
gacttaatat tttaaagatt gaatccagat cacttggtgc tgttttaatg gaatggtttt 2700
ttacaggagc tgtaacatam ttaaaaatat gaatgtatta tgtaaatatg gcttcctttac 2760
ataaaaaata aaatgtcaac actgtaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2820
aaaaaaaaa aaaaaaa 2837

```

&lt;210&gt; 188

&lt;211&gt; 686

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 188

```

Met Gly Glu Lys Lys Glu Ser Lys Pro Ala Ala Thr Thr Arg Ser Ser
  1              5              10              15

```

```

Gly Gly Gly Gly Gly Gly Gly Gly Lys Arg Gly Gly Lys Lys Asp Asp
      20              25              30

```

```

Ser His Trp Trp Ser Arg Phe Gln Lys Gly Asp Ile Pro Trp Asp Asp
      35              40              45

```

```

Lys Asp Phe Arg Met Phe Phe Leu Trp Thr Ala Leu Phe Trp Gly Gly
      50              55              60

```

```

Val Met Phe Tyr Leu Leu Leu Lys Arg Ser Gly Arg Glu Ile Thr Trp
      65              70              75              80

```

```

Lys Asp Phe Val Asn Asn Tyr Leu Ser Lys Gly Val Val Asp Arg Leu
      85              90              95

```

```

Glu Val Val Asn Lys Arg Phe Val Arg Val Thr Phe Thr Pro Gly Lys
      100              105              110

```

```

Thr Pro Val Asp Gly Gln Tyr Val Trp Phe Asn Ile Gly Ser Val Asp
      115              120              125

```

```

Thr Phe Glu Arg Asn Leu Glu Thr Leu Gln Gln Glu Leu Gly Ile Glu
      130              135              140

```

```

Gly Glu Asn Arg Val Pro Val Val Tyr Ile Ala Glu Ser Asp Gly Ser
      145              150              155              160

```

```

Phe Leu Leu Ser Met Leu Pro Thr Val Leu Ile Ile Ala Phe Leu Leu
      165              170              175

```

```

Tyr Thr Ile Arg Arg Gly Pro Ala Gly Ile Gly Arg Thr Gly Arg Gly
      180              185              190

```

```

Met Gly Gly Leu Phe Ser Val Gly Glu Thr Thr Ala Lys Val Leu Lys
      195              200              205

```

```

Asp Glu Ile Asp Val Lys Phe Lys Asp Val Ala Gly Cys Glu Glu Ala
      210              215              220

```

```

Lys Leu Glu Ile Met Glu Phe Val Asn Phe Leu Lys Asn Pro Lys Gln
      225              230              235              240

```

Tyr Gln Asp Leu Gly Ala Ile Ile Pro Lys Gly Ala Ile Leu Thr Gly  
 245 250 255  
 Pro Pro Gly Thr Gly Lys Thr Leu Leu Ala Lys Ala Thr Ala Gly Glu  
 260 265 270  
 Ala Asn Val Pro Phe Ile Thr Val Ser Gly Ser Glu Phe Leu Glu Met  
 275 280 285  
 Phe Val Gly Val Gly Pro Ala Arg Val Arg Asp Leu Phe Ala Leu Ala  
 290 295 300  
 Arg Lys Asn Ala Pro Cys Ile Leu Phe Ile Asp Glu Ile Asp Ala Val  
 305 310 315 320  
 Gly Arg Lys Arg Gly Arg Gly Asn Phe Gly Gly Gln Ser Glu Gln Glu  
 325 330 335  
 Asn Thr Leu Asn Gln Leu Leu Val Glu Met Asp Gly Phe Asn Thr Thr  
 340 345 350  
 Thr Asn Val Val Ile Leu Ala Gly Thr Asn Arg Pro Gly Pro Pro Asp  
 355 360 365  
 Ile Lys Gly Arg Ala Ser Ile Phe Lys Val His Leu Arg Pro Leu Lys  
 370 375 380  
 Leu Asp Ser Thr Leu Glu Lys Asp Lys Leu Ala Arg Lys Leu Ala Ser  
 385 390 395 400  
 Leu Thr Pro Gly Phe Ser Gly Ala Asp Val Ala Asn Val Cys Asn Glu  
 405 410 415  
 Ala Ala Leu Ile Ala Ala Arg His Leu Ser Asp Ser Ile Asn Gln Lys  
 420 425 430  
 His Phe Glu Gln Ala Ile Glu Arg Val Ile Gly Gly Leu Lys Lys Lys  
 435 440 445  
 Thr Gln Val Leu Gln Pro Glu Glu Lys Lys Thr Val Ala Tyr His Glu  
 450 455 460  
 Ala Gly His Ala Val Ala Gly Trp Tyr Leu Glu His Ala Asp Pro Leu  
 465 470 475 480  
 Leu Lys Val Ser Ile Ile Pro Arg Gly Lys Gly Leu Gly Tyr Ala Gln  
 485 490 495  
 Tyr Leu Pro Lys Glu Gln Tyr Leu Tyr Thr Lys Glu Gln Leu Leu Asp  
 500 505 510  
 Arg Met Cys Met Thr Leu Gly Gly Arg Val Ser Glu Glu Ile Phe Phe  
 515 520 525  
 Gly Arg Ile Thr Thr Gly Ala Gln Asp Asp Leu Arg Lys Val Thr Gln  
 530 535 540  
 Ser Ala Tyr Ala Gln Ile Val Gln Phe Gly Met Asn Glu Lys Val Gly  
 545 550 555 560

Gln Ile Ser Phe Asp Leu Pro Arg Gln Gly Asp Met Val Leu Glu Lys  
565 570 575

Pro Tyr Ser Glu Ala Thr Ala Arg Leu Ile Asp Asp Glu Val Arg Ile  
580 585 590

Leu Ile Asn Asp Ala Tyr Lys Arg Thr Val Ala Leu Leu Thr Glu Lys  
595 600 605

Lys Ala Asp Val Glu Lys Val Ala Leu Leu Leu Leu Glu Lys Glu Val  
610 615 620

Leu Asp Lys Asn Asp Met Val Glu Leu Leu Gly Pro Arg Pro Phe Ala  
625 630 635 640

Glu Lys Ser Thr Tyr Glu Glu Phe Val Glu Gly Thr Gly Ser Leu Asp  
645 650 655

Glu Asp Thr Ser Leu Pro Glu Gly Leu Lys Asp Trp Asn Lys Glu Arg  
660 665 670

Glu Lys Glu Lys Glu Glu Pro Pro Gly Glu Lys Val Ala Asn  
675 680 685

<210> 189  
<211> 627  
<212> DNA  
<213> Homo sapiens

<400> 189  
gattggaggtt cttttcttaa atatccaaat aagattatag ctatgttttt accaaatggt 60  
tgtgcggttaa atagagagtg gatggaaatt aaccctagaa aggatagttg taacttttaa 120  
aaagttgatt aactatttcg tgtgctaatt tgagtttttc tgaatactcc aatatgggtt 180  
cctttaacac ctgctctcag tttacaatca cctaacttcc cagcgttggt gtctttttct 240  
ctgtctgacc ctgtcttatt tctcctacaa agacatatcc tgcgctgtac ttcagatact 300  
ttttctgagg aacatttgtg atttgtggca taaagtaact gtctaaagga aatcttctga 360  
gaggatctgg tcattttatg aaaggggcaa ttaaggggaa atggaagcag atctttttaa 420  
gaaggagcat ttgaaattag cccaggaatc atgtccggcg agtcctgctc ttttgtacct 480  
gggcataata gtcagccaca cagagctaga gttagttcaa gaattgtctt tcctgatcgt 540  
gctatatattt tggaaacacg ttagatacag aggtaagatg tcaaaattct gaaatacaca 600  
caatatagga tcaaaaaaaaa aaaaaaa 627

<210> 190  
<211> 63  
<212> PRT  
<213> Homo sapiens

<400> 190  
Met Glu Ala Asp Leu Leu Lys Lys Glu His Leu Lys Leu Ala Gln Glu  
1 5 10 15

Ser Cys Pro Ala Ser Pro Ala Leu Leu Tyr Leu Gly Ile Ile Val Ser  
20 25 30

His Thr Glu Leu Glu Leu Val Gln Glu Leu Ser Phe Leu Ile Val Leu  
35 40 45

Tyr Phe Trp Lys His Val Arg Tyr Arg Gly Lys Met Ser Lys Phe



50

55

60

<210> 191  
 <211> 868  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (733)

<400> 191  
 attctgtccc tgcccttaga aaacctaataa taccaagggt gtcattgctgg caactccctg 60  
 cccagtcctg cacaagcct tggctgtgtg tggcaccct tgcctcctac cccagagcag 120  
 ctggctccat tggcttctcc ctgcaccagc cctgtcctca ggggtcagga aaaagcacac 180  
 agctttcttt cctctcctcc agaggcctgg aaggaggtg gaggtccagt aagggcctgg 240  
 ctgccttgga tttcttggtc' ctgccttgcc aactgcaccc ttagctcct gctccctgtg 300  
 accccagaac agagggtgctg ccttcctctgt ctcctagaca aagcacaag ggatgccctg 360  
 cttggcttga gcctgcccac ctgaaggatt ttctctgccc caggacatt ccatccctga 420  
 atacaaggct ctaggcaact tctctctggg tggtagacac tagaatgcct ggcattagcc 480  
 ctgaaagga ggttgggtg tatgggtagt gagctagggt gggagaaagg tgggtgtgaa 540  
 aggacagatg ctagttagt tttcactcac tcattcattc attagtcaa cagtactgag 600  
 caccacctgc actagaggca gaggggtgaa caagataccc ttttgctgg ggggacgtcc 660  
 acttcccattg ggtttggcta tttccaggaa agccctcag tcctcctccc tgttctggct 720  
 gtgtgtgaag gangtgtgtg agcaggccca atcctttgca gcaagaatga gaggtcagag 780  
 tattccattg cacacgcacc ctggggctga cagactgtg cccctagcc ttcattgcatg 840  
 cccaagcact ggcagctttg cagccct 868

<210> 192  
 <211> 107  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> UNSURE  
 <222> (62)

<400> 192  
 Met Leu Val Val Val Ser Leu Thr His Ser Phe Ile Ser Ala Thr Val  
 1 5 10 15  
 Leu Ser Thr Thr Cys Thr Arg Gly Arg Gly Val Asn Lys Ile Pro Phe  
 20 25 30  
 Cys Leu Gly Gly Arg Pro Leu Pro Met Gly Leu Ala Ile Ser Arg Lys  
 35 40 45  
 Ala Pro Gln Ser Ser Ser Leu Phe Trp Leu Cys Val Lys Xaa Val Cys  
 50 55 60  
 Glu Gln Ala Gln Ser Phe Ala Ala Arg Met Arg Gly Gln Ser Ile Pro  
 65 70 75 80  
 Leu His Thr His Pro Gly Ala Asp Arg Leu Val Pro Pro Ser Leu His  
 85 90 95  
 Ala Cys Pro Ser Thr Gly Ser Phe Ala Ala Pro  
 100 105

<210> 193  
 <211> 467  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (57)

<220>  
 <221> unsure  
 <222> (254)

<400> 193  
 tggctatccc tagaagcact tcatccatct taaccacccc aaacgggac ccttcanatc 60  
 tcatacccag taagatgcaa gaaaggaata tttgagagca agcagccctg ttccaggggc 120  
 cccaggtatg tgtagaggcc cagtgggggt ggccacttgg tgtttctacc accccctgcc 180  
 atccagtctg gccaggtacc tacctgggag gttgggtgtac ttggcttaag tacttcatgc 240  
 tttattcagg ctgnntcccc acagcaccgg caggaaatga aggtgcactt atatgcatcc 300  
 ctgcaggaat aaagagtggg tggcctgccc agcccagcac cacagccttt ccccagccag 360  
 gagagaccac ctaaggatca aggcagctcc tgttttcttg gttctgtgac actcgagtct 420  
 gagccagccc ctcaggaatt gcctcaaaag agaaaaaaaa aaaaaaa 467

<210> 194  
 <211> 1035  
 <212> DNA  
 <213> Homo sapiens

<400> 194  
 aatctttttg ttgtcaagct tgagggtgtgg caggcttgag atctggccat acacttgagt 60  
 gacaatgaca tccactttgc ctttctctcc acagggtgtcc actcccaggt ccaactgcag 120  
 acttcgaatt cggccttcat ggcctagatg attgcaagtc aatggaagga gctgcagagg 180  
 caaatcaaac ggcagcacag ctggattctc agggctctgg ataccatcaa agccgagata 240  
 ctggctactg atgtgtctgt ggaggatgag gaagggactg gaagcccaa ggctgagggt 300  
 caactatgct acctggaagc acaaagagat gctgttgagc agatgtccct caagctgtrc 360  
 agcgagcagt ataccagcag cagcaagcga aaggaaagat ttgctgatat gtcaaaagtt 420  
 tcattcagtg ggaagcaatg ggcttctgga ctttgattca gaatatcmgg agctctggga 480  
 ttggctgatt gacatggagt cccttgatg ggacagccac gacctgatga tgtcagagga 540  
 gcagcagcag catctttaca agcgatacag tgtggaatg tccatcagac acctgaaaaa 600  
 gacggagctg cttagtaagg ttgaagcttt gaagaaagggt ggcgttttac taccaaatga 660  
 tctccttgaa aaagtggatt caattaatga aaaatgggaa ctrcttggg tatttgcatt 720  
 tttattactg ttgtagggt atgtgtacat tttttgcgta gtgaagtact ctgtccgatt 780  
 tctaatttga ggcacaaata tctctctctt tcaattcact acctacgttt caaacaagct 840  
 attcatgcta ttatgggaaa gacactgctt ttccctctct gttgatTTTT ttttttctg 900  
 agcttgcccc ctctcagatt ttaataatTT tggttcttta atacatgaaa aagtaagtaa 960  
 aatatgccat gtattatggg tatgcaccaa gtcaactata atacagtata tctgatatat 1020  
 aaaaaaaaaa aaaaa 1035

<210> 195  
 <211> 179  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> UNSURE  
 <222> (37)

<220>  
 <221> UNSURE

&lt;222&gt; (73)

&lt;400&gt; 195

Met Cys Leu Trp Arg Met Arg Lys Gly Leu Glu Ala Pro Arg Leu Arg  
 1 5 10 15

Phe Asn Tyr Ala Thr Trp Lys His Lys Glu Met Leu Leu Ser Arg Cys  
 20 25 30

Pro Ser Ser Cys Xaa Ala Ser Ser Ile Pro Ala Ala Ala Ser Glu Arg  
 35 40 45

Lys Ser Leu Leu Ile Cys Gln Lys Phe His Ser Val Gly Ser Asn Gly  
 50 55 60

Leu Leu Asp Phe Asp Ser Glu Tyr Xaa Glu Leu Trp Asp Trp Leu Ile  
 65 70 75 80

Asp Met Glu Ser Leu Val Met Asp Ser His Asp Leu Met Met Ser Glu  
 85 90 95

Glu Gln Gln Gln His Leu Tyr Lys Arg Tyr Ser Val Glu Met Ser Ile  
 100 105 110

Arg His Leu Lys Lys Thr Glu Leu Leu Ser Lys Val Glu Ala Leu Lys  
 115 120 125

Lys Gly Gly Val Leu Leu Pro Asn Asp Leu Leu Glu Lys Val Asp Ser  
 130 135 140

Ile Asn Glu Lys Trp Glu Leu Leu Gly Val Phe Ala Phe Leu Leu Leu  
 145 150 155 160

Phe Val Gly Tyr Val Tyr Ile Phe Cys Val Val Lys Tyr Ser Val Arg  
 165 170 175

Phe Leu Ile

&lt;210&gt; 196

&lt;211&gt; 3831

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 196

gcagcagggtc aaacaaggca tctcctagta ttgcataccta cagatgtgct gtaaacaatca 60  
 aaagaagacg gtgggagcag gagatgctgt tttggaaaga agtgagggtt agacttctcc 120  
 atgttaacca tgagcgtgac actttccccc ctgagggtcac aggacctgga tcccatggct 180  
 actgatgctt caccatggc catcaacatg acaccactg tggagcaggg tgaggagaga 240  
 gaggaatga aggacatgga ctctgaccag cagtatgaaa agccaccccc actacacaca 300  
 ggggctgact ggaagattgt cctccactta cctgaaattg agacctggct ccggatgacc 360  
 tcagagaggg tccgagacct aacctattca gtccagcagg attcggacag caagcatgtg 420  
 gatgtacatc tagttcaact aaaggacatt tgtgaagata tttctgatca tgttgagcaa 480  
 atccatgccc tccttgaaac agagttctcc cttaaagctgc tgtcttactc tgtcaacgtg 540  
 atagtggaca tccacgcagt gcagctcctc tggcaccagc ttcgagtctc agtgctggtt 600  
 ctgcgggagc gcattctgca aggtctgcag gacgccaatg gcaactacac taggcagacg 660  
 gacattctgc aagctttctc tgaagagaca aaagagggcc ggcttgatc tctaacagaa 720  
 gtggatgact caggacaatt aaccatcaaa tgttctcaaa attacttgct tctggattgt 780  
 ggcattactg cattcgaact gtctgactac agtccaagtg aggatttgct cagtgggcta 840

```

ggtgacatga cctctagcca agtcaaaacc aaaccctttg actcttggag ctacagtggag 900
atggaaaagg agtttctctga gcttatccga agtggttggt tacttacggg agctgctgac 960
tctatctcta ccaatggcag tgaagcagtt actgaggagg tatctcaagt atctctctca 1020
gtagacgaca aaggtggatg tgaggaagac aatgcttctg cagtcgaaga gcaaccaggc 1080
ttaacactgg ggggtgcatc atcttcagga gaagctctga caaatgctgc tcaacctctc 1140
tctgagactg tgcagcaaga atccagttcc tctcccatc atgatgcaaa gaatcagcag 1200
cctgttcctt gtgaaaatgc aacccccaaa cgaaccatca gagattgctt taattataac 1260
gaggactctc ccacacagcc tacattgcca aaaagaggac tttttcttaa agaggaaact 1320
tttaagaatg atctgaaagg caatggtgga aagaggcaaa tggttgatct aaagcctgag 1380
atgagcagaa gcaccccttc gctagtagat cctcctgaca gatccaaact ttgcctggta 1440
ttgcagtctt cttaccccaa cagcccttct gctgccagcc agtcttatga gtgtttacac 1500
aaggtgggga atgggaacct tgaaaacaca gtcaaatttc acattaaaga aatttcttcc 1560
agcctgggaa ggcttaacga ctgctataaa gagaaatctc gacttaaaaa gccacacaag 1620
acctcagaag aggtgcctcc atgccgaaca cctaaacggg ggactgggtc aggcaaacaa 1680
gctaaaaata caaagagctc agcagtgcca aatggagagc tttcttatac ttccaaggcc 1740
atagaggggc cacaacaaaa ttctgcttcc acatcctcac ttgagccttg taatcagaga 1800
agttggaatg ccaaatgcca attgcagtcgaaacatcca gttcaccagc ttttactcag 1860
agcagtgaat cctctgtttg ctcagacaac atcatgtctc cgggtgccact tctttcaaaa 1920
cacaaaagca aaaaaggcca agcctcctct ccaagtcacg tcaactaggaa tgggtgagggt 1980
gtggaggcct ggtatggctc tgatgaatac ctagcactgc cctctcacct taagcagaca 2040
gaagtattgg ctttgaagtt ggaaaacctc acaaagcttc tgcctcagaa acccagagga 2100
gaaacctatc agaataatga tgaactggaa ctgtctgaaa tgaattcaga ttctgaaatc 2160
tatccaacct atcatgtcaa aaagaagcat acaaggctag gcagggtgtc tccaagctca 2220
tctagtgaac tagcctcttc actaggggag agcattgaat ctggggccct gagtgacatt 2280
ctttctgatg aggagtccag tatgcctctc gctggcatga aaaagtatgc tgatgagaag 2340
tcagaaagag cttcatcctc tgagaaaaat gagagccatt ctgccactaa atcagcttta 2400
attcagaaac tgatgcaaga tattcagcac caagacaact atgaagccat atgggaaaaa 2460
atagaggggt ttgtaaacaa actggatgaa ttcatccaat gggttaaata agccatggaa 2520
actacagaga attggactcc ccctaaagca gagatggatg accttaaact gtatctggag 2580
acacacttga gttttaagtt gaatgtagac agtcattgtg ctctcaagga agctgtggag 2640
gaggaaggac accaacttct tgagcttatt gcattctaca aagcaggact gaaggacatg 2700
ctgcggatga ttgcaagtca atggaaggag ctgcagaggc aaatcaaacy gcagcacagc 2760
tggattctca gggctctgga taccatcaaa gccagatcac tggctactga tgtgtctgtg 2820
gaggtatgag aagggactgg aagccccaa gctgaggttc aactatgcta cctggaagca 2880
caaagagatg ctgttgagca gatgtccctc aagctgtaca gcgagcagta taccagcagc 2940
agcaagcgaa aggaagagtt tgctgatatg tcaaaagttc attcagtggg aagcaatggg 3000
cttctggact ttgattcaga atatcaggag ctctgggatt ggctgattga catggagtcc 3060
cttgtgatgg acagccacga cctgatgatg tcagaggagc agcagcagca tctttacaag 3120
cgatacagtg tggaaatgtc catcagacac ctgaaaaaga cggagctgct tagtaagggt 3180
gaagctttga agaaggtgg cgttttacta ccaaatgatc tccttgaaaa agtggattca 3240
attaatgaaa aatgggaact gcttggggta tttgcatttt tattactgtt tgtagggtat 3300
gtgtacattt tttgcgtagt gaagtactct gtcggatttc taatttgagg cacaaatctc 3360
tctctcttct aattcactac ctacgtttca aacaagctat tcatgctatt atgggaaaga 3420
cactgctttt cctcttctgt tgattttttt tttttctgag cttgtccctc ctcagatttt 3480
aataattttg gttctttaat acatgaaaaa gtaagtaaaa tatgccatgt attatgggta 3540
tgcaccaagt caactataat acagtatata tgatatatac tgactgtcat gcttgaatga 3600
atgttaatat aattttattc gaaggtacat gtgagagaca tctactgttt aactatttac 3660
tgtaccttta agatgaaaag tggagttgtc actacagctt tcaagtcaca ctaaagccac 3720
caaaacaaag atgcaaatat gacccaaatc tgaattgcag aattgaaatca gcctgtgttt 3780
tgtgcctcaa tttccagctc actttttaaca aaagccaaaa aaaaaaaaaa a 3831

```

&lt;210&gt; 197

&lt;211&gt; 1075

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 197

Met Leu Thr Met Ser Val Thr Leu Ser Pro Leu Arg Ser Gln Asp Leu

1

5

10

15

Asp Pro Met Ala Thr Asp Ala Ser Pro Met Ala Ile Asn Met Thr Pro  
 20 25 30  
 Thr Val Glu Gln Gly Glu Gly Glu Glu Ala Met Lys Asp Met Asp Ser  
 35 40 45  
 Asp Gln Gln Tyr Glu Lys Pro Pro Pro Leu His Thr Gly Ala Asp Trp  
 50 55 60  
 Lys Ile Val Leu His Leu Pro Glu Ile Glu Thr Trp Leu Arg Met Thr  
 65 70 75 80  
 Ser Glu Arg Val Arg Asp Leu Thr Tyr Ser Val Gln Gln Asp Ser Asp  
 85 90 95  
 Ser Lys His Val Asp Val His Leu Val Gln Leu Lys Asp Ile Cys Glu  
 100 105 110  
 Asp Ile Ser Asp His Val Glu Gln Ile His Ala Leu Leu Glu Thr Glu  
 115 120 125  
 Phe Ser Leu Lys Leu Leu Ser Tyr Ser Val Asn Val Ile Val Asp Ile  
 130 135 140  
 His Ala Val Gln Leu Leu Trp His Gln Leu Arg Val Ser Val Leu Val  
 145 150 155 160  
 Leu Arg Glu Arg Ile Leu Gln Gly Leu Gln Asp Ala Asn Gly Asn Tyr  
 165 170 175  
 Thr Arg Gln Thr Asp Ile Leu Gln Ala Phe Ser Glu Glu Thr Lys Glu  
 180 185 190  
 Gly Arg Leu Asp Ser Leu Thr Glu Val Asp Asp Ser Gly Gln Leu Thr  
 195 200 205  
 Ile Lys Cys Ser Gln Asn Tyr Leu Ser Leu Asp Cys Gly Ile Thr Ala  
 210 215 220  
 Phe Glu Leu Ser Asp Tyr Ser Pro Ser Glu Asp Leu Leu Ser Gly Leu  
 225 230 235 240  
 Gly Asp Met Thr Ser Ser Gln Val Lys Thr Lys Pro Phe Asp Ser Trp  
 245 250 255  
 Ser Tyr Ser Glu Met Glu Lys Glu Phe Pro Glu Leu Ile Arg Ser Val  
 260 265 270  
 Gly Leu Leu Thr Val Ala Ala Asp Ser Ile Ser Thr Asn Gly Ser Glu  
 275 280 285  
 Ala Val Thr Glu Glu Val Ser Gln Val Ser Leu Ser Val Asp Asp Lys  
 290 295 300  
 Gly Gly Cys Glu Glu Asp Asn Ala Ser Ala Val Glu Glu Gln Pro Gly  
 305 310 315 320  
 Leu Thr Leu Gly Val Ser Ser Ser Ser Gly Glu Ala Leu Thr Asn Ala  
 325 330 335

Ala Gln Pro Ser Ser Glu Thr Val Gln Gln Glu Ser Ser Ser Ser Ser  
 340 345 350  
 His His Asp Ala Lys Asn Gln Gln Pro Val Pro Cys Glu Asn Ala Thr  
 355 360 365  
 Pro Lys Arg Thr Ile Arg Asp Cys Phe Asn Tyr Asn Glu Asp Ser Pro  
 370 375 380  
 Thr Gln Pro Thr Leu Pro Lys Arg Gly Leu Phe Leu Lys Glu Glu Thr  
 385 390 395 400  
 Phe Lys Asn Asp Leu Lys Gly Asn Gly Gly Lys Arg Gln Met Val Asp  
 405 410 415  
 Leu Lys Pro Glu Met Ser Arg Ser Thr Pro Ser Leu Val Asp Pro Pro  
 420 425 430  
 Asp Arg Ser Lys Leu Cys Leu Val Leu Gln Ser Ser Tyr Pro Asn Ser  
 435 440 445  
 Pro Ser Ala Ala Ser Gln Ser Tyr Glu Cys Leu His Lys Val Gly Asn  
 450 455 460  
 Gly Asn Leu Glu Asn Thr Val Lys Phe His Ile Lys Glu Ile Ser Ser  
 465 470 475 480  
 Ser Leu Gly Arg Leu Asn Asp Cys Tyr Lys Glu Lys Ser Arg Leu Lys  
 485 490 495  
 Lys Pro His Lys Thr Ser Glu Glu Val Pro Pro Cys Arg Thr Pro Lys  
 500 505 510  
 Arg Gly Thr Gly Ser Gly Lys Gln Ala Lys Asn Thr Lys Ser Ser Ala  
 515 520 525  
 Val Pro Asn Gly Glu Leu Ser Tyr Thr Ser Lys Ala Ile Glu Gly Pro  
 530 535 540  
 Gln Thr Asn Ser Ala Ser Thr Ser Ser Leu Glu Pro Cys Asn Gln Arg  
 545 550 555 560  
 Ser Trp Asn Ala Lys Leu Gln Leu Gln Ser Glu Thr Ser Ser Ser Pro  
 565 570 575  
 Ala Phe Thr Gln Ser Ser Glu Ser Ser Val Gly Ser Asp Asn Ile Met  
 580 585 590  
 Ser Pro Val Pro Leu Leu Ser Lys His Lys Ser Lys Lys Gly Gln Ala  
 595 600 605  
 Ser Ser Pro Ser His Val Thr Arg Asn Gly Glu Val Val Glu Ala Trp  
 610 615 620  
 Tyr Gly Ser Asp Glu Tyr Leu Ala Leu Pro Ser His Leu Lys Gln Thr  
 625 630 635 640  
 Glu Val Leu Ala Leu Lys Leu Glu Asn Leu Thr Lys Leu Leu Pro Gln  
 645 650 655

Lys Pro Arg Gly Glu Thr Ile Gln Asn Ile Asp Asp Trp Glu Leu Ser  
 660 665 670  
 Glu Met Asn Ser Asp Ser Glu Ile Tyr Pro Thr Tyr His Val Lys Lys  
 675 680 685  
 Lys His Thr Arg Leu Gly Arg Val Ser Pro Ser Ser Ser Asp Ile  
 690 695 700  
 Ala Ser Ser Leu Gly Glu Ser Ile Glu Ser Gly Pro Leu Ser Asp Ile  
 705 710 715 720  
 Leu Ser Asp Glu Glu Ser Ser Met Pro Leu Ala Gly Met Lys Lys Tyr  
 725 730 735  
 Ala Asp Glu Lys Ser Glu Arg Ala Ser Ser Ser Glu Lys Asn Glu Ser  
 740 745 750  
 His Ser Ala Thr Lys Ser Ala Leu Ile Gln Lys Leu Met Gln Asp Ile  
 755 760 765  
 Gln His Gln Asp Asn Tyr Glu Ala Ile Trp Glu Lys Ile Glu Gly Phe  
 770 775 780  
 Val Asn Lys Leu Asp Glu Phe Ile Gln Trp Leu Asn Glu Ala Met Glu  
 785 790 795 800  
 Thr Thr Glu Asn Trp Thr Pro Pro Lys Ala Glu Met Asp Asp Leu Lys  
 805 810 815  
 Leu Tyr Leu Glu Thr His Leu Ser Phe Lys Leu Asn Val Asp Ser His  
 820 825 830  
 Cys Ala Leu Lys Glu Ala Val Glu Glu Glu Gly His Gln Leu Leu Glu  
 835 840 845  
 Leu Ile Ala Ser His Lys Ala Gly Leu Lys Asp Met Leu Arg Met Ile  
 850 855 860  
 Ala Ser Gln Trp Lys Glu Leu Gln Arg Gln Ile Lys Arg Gln His Ser  
 865 870 875 880  
 Trp Ile Leu Arg Ala Leu Asp Thr Ile Lys Ala Glu Ile Leu Ala Thr  
 885 890 895  
 Asp Val Ser Val Glu Asp Glu Glu Gly Thr Gly Ser Pro Lys Ala Glu  
 900 905 910  
 Val Gln Leu Cys Tyr Leu Glu Ala Gln Arg Asp Ala Val Glu Gln Met  
 915 920 925  
 Ser Leu Lys Leu Tyr Ser Glu Gln Tyr Thr Ser Ser Ser Lys Arg Lys  
 930 935 940  
 Glu Glu Phe Ala Asp Met Ser Lys Val His Ser Val Gly Ser Asn Gly  
 945 950 955 960  
 Leu Leu Asp Phe Asp Ser Glu Tyr Gln Glu Leu Trp Asp Trp Leu Ile  
 965 970 975

Asp Met Glu Ser Leu Val Met Asp Ser His Asp Leu Met Met Ser Glu  
 980 985 990  
 Glu Gln Gln Gln His Leu Tyr Lys Arg Tyr Ser Val Glu Met Ser Ile  
 995 1000 1005  
 Arg His Leu Lys Lys Thr Glu Leu Leu Ser Lys Val Glu Ala Leu Lys  
 1010 1015 1020  
 Lys Gly Gly Val Leu Leu Pro Asn Asp Leu Leu Glu Lys Val Asp Ser  
 1025 1030 1035 1040  
 Ile Asn Glu Lys Trp Glu Leu Leu Gly Val Phe Ala Phe Leu Leu Leu  
 1045 1050 1055  
 Phe Val Gly Tyr Val Tyr Ile Phe Cys Val Val Lys Tyr Ser Val Arg  
 1060 1065 1070  
 Phe Leu Ile  
 1075

<210> 198  
 <211> 3113  
 <212> DNA  
 <213> Homo sapiens

<400> 198  
 gcaaacacat tgaagtacag gtagcccagg aaactagaaa tgtatctact ggctctgctg 60  
 aaaatgaaga aaagtcagaa gttcaagcaa tcatcgaatc tactcctgag ctggatatgg 120  
 acaaagatct cagtggatat aaagggttcaa gcactcccac caaaggcata gagaacaaag 180  
 cttttgatcg caatacagaa tctctctttg aagaactgtc ttcagctggc tcaggcctaa 240  
 taggagatgt ggatgaagga gcagatttac taggaatggg tcgggaagtt gagaatctta 300  
 tattagaaaa tacacaactg ttggaaacca aaaatgcttt gaacatagtg aagaatgatt 360  
 tgatagcaaa agtggatgaa ctgacctgtg agaaagatgt gctgcaaggg gaattggagg 420  
 ctgtgaagca agccaaactg aaactagagg aaaagaacag agaattggag gaagagctta 480  
 ggaaagctcg ggcagaagct gaagatgcag ggcaaaaagc aaaagatgac gatgatagt 540  
 atattccac agccagagg aaacggttta ctagagtaga aatggcccggt gttctcatgg 600  
 agcgaacca gtataaagag agattgatgg agcttcagga agctgttcga tggacagaga 660  
 tgattcgggc atcacgagaa aatccagcca tgcaggaaaa aaaaagggtca agcatttggc 720  
 agtttttcag ccgacttttc agctcctcaa gtaacacgac taagaagcct gaaccacctg 780  
 ttaatctgaa gtacaatgca cccacgtctc atgttactcc gtccgtcaag aaaagaagca 840  
 gcaccttacc tcagctccct ggggataagt ccaaagcctt tgatttcctt agtgaagaaa 900  
 ctgaagctag tttagcctca cgcagagaa aaaagagaga gcagtatcgt caggtaaaaag 960  
 cacatgttca gaaggaagac ggtagagtgc aggccttttg ctggagtctg cctcagaagt 1020  
 acaaacaggt aaccaatggt caaggtgaaa ataagatgaa aaatttacct gtgcctgtct 1080  
 atctcagacc tctggatgaa aaagatacat caatgaagct gtggtgtgct gttggagtca 1140  
 atttatctgg tgggaagacc agagatgggt gttctgttgt tggagcaagt gtattttaca 1200  
 aggatgttgc tggtttggat acagaaggca gtaaacagcg aagtgcctct cagagtagtt 1260  
 tagataagtt agatcaggaa cttaaggaac agcagaagga gttaaaaaat caagaagaat 1320  
 tatccagttc agtttggatc tgtaccagca ctcatcggc tacaaaagtt cttattattg 1380  
 atgctgttca acctggcaac atcctagaca gtttccactgt ttgcaactct catgttctgt 1440  
 gcattgcaag tgtgccagggt gcacgagaaa cagactaccg tgcaggagaa gatctttcag 1500  
 aatctggtca ggtagacaaa gcattctttat gtggaagtat gacaagcaac agctcagcag 1560  
 agacagacag cctgttagga ggcattcacag tggttggttg ttctgcagaa ggtgtgacgg 1620  
 gagctgccac tccccctagt acaaattggtg cttctccagt gatggataaa ccaccagaaa 1680  
 tggaagcaga aaatagttag gttgatgaaa atgttccaac agcagaagaa gcaactgaag 1740  
 ctacagaagg gaatgcgggg tcagctgaag acacagtgga catctcccaa actggcgctc 1800  
 acacagagca tgtctttaca gatccttttg gagttcagat ccacagaagac ctctccccag 1860  
 tgtatcagtc gagcaatgac tcagatgcat ataaagatca aatatcagta ctgccaaatg 1920



```

aacaagactt ggtgagagaa gaagcccaga aaatgagtag tcttttacca actatgtggc 1980
ttggagctca aaatggctgt ttgtatgtcc attcatctgt agcccagtgg aggaaatgtc 2040
tccattccat taaacttaaa gattcgattc tcagtattgt acacgtgaag ggaatcgtgt 2100
tagtagccct ggctgacggc acccttgcaa tctttcacag aggagtggat gggcagtggg 2160
atgtgtcaaa ctatcacctc ttagaccttg gacggcctca tcattccatc cgttgcata 2220
ctgtggtaca tgacaaagtc tgggtgtggc ataggaacaa aatctatgtg gtgcagccaa 2280
aggccatgaa aatagagaaa tcttttgatg cacatcccag gaaggagagc caagtgcgac 2340
agcttgctgt ggtgggggat ggcgtgtggg tctccattcg cttggattct acgctccgtc 2400
tctatcatgc acacacttat caacatctac aggatgtgga cattgagcct tatgtaagca 2460
aaatgttagg tactggaaaa ctgggcttct cttttgtgag aattacagct cttatggtgt 2520
cttgtaatcg tttgtgggtg gggacaggaa atggtgtcat tatctccatc ccattgacag 2580
aaagtaagta tttttttaga taactgccat ggaacaaata ggagaattat aggaaatagt 2640
tatgtctgaa attcaaactc gtgttagctc aagaaaatca gtgatggcaa agatctagct 2700
atagttaact tcaactcaat gaaacttata aattctagga aaataagttt tcatgtatca 2760
agaccaatac tcataattaa aagtttttcg ttgtcaaaac attttcacag ttcaggaatc 2820
acagtcctat ttcattcttt gaaataaaag ttaaagtcca tttttcttaa gccttattat 2880
accattatcc aaaaacacta cctagcattc atcttagttt ttcatatctc cttagcagat 2940
agtttagtat attccatttg tcttatttga ggtttaaaaa aagttgtgga agaagtttct 3000
caggagtcca gcaagccttt ccattctatc tctattttaa aagaatgtga tttattgttt 3060
ttatgaataa aatatacttc gtgtgtttct caaaaaaa aaaaaaaaaa aaa 3113

```

&lt;210&gt; 199

&lt;211&gt; 828

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 199

```

Met Asp Lys Asp Leu Ser Gly Tyr Lys Gly Ser Ser Thr Pro Thr Lys
  1              5              10              15

```

```

Gly Ile Glu Asn Lys Ala Phe Asp Arg Asn Thr Glu Ser Leu Phe Glu
          20              25              30

```

```

Glu Leu Ser Ser Ala Gly Ser Gly Leu Ile Gly Asp Val Asp Glu Gly
          35              40              45

```

```

Ala Asp Leu Leu Gly Met Gly Arg Glu Val Glu Asn Leu Ile Leu Glu
          50              55              60

```

```

Asn Thr Gln Leu Leu Glu Thr Lys Asn Ala Leu Asn Ile Val Lys Asn
          65              70              75              80

```

```

Asp Leu Ile Ala Lys Val Asp Glu Leu Thr Cys Glu Lys Asp Val Leu
          85              90              95

```

```

Gln Gly Glu Leu Glu Ala Val Lys Gln Ala Lys Leu Lys Leu Glu Glu
          100             105             110

```

```

Lys Asn Arg Glu Leu Glu Glu Leu Arg Lys Ala Arg Ala Glu Ala
          115             120             125

```

```

Glu Asp Ala Gly Gln Lys Ala Lys Asp Asp Asp Asp Ser Asp Ile Pro
          130             135             140

```

```

Thr Ala Gln Arg Lys Arg Phe Thr Arg Val Glu Met Ala Arg Val Leu
          145             150             155             160

```

```

Met Glu Arg Asn Gln Tyr Lys Glu Arg Leu Met Glu Leu Gln Glu Ala
          165             170             175

```

Val Arg Trp Thr Glu Met Ile Arg Ala Ser Arg Glu Asn Pro Ala Met  
 180 185 190  
 Gln Glu Lys Lys Arg Ser Ser Ile Trp Gln Phe Phe Ser Arg Leu Phe  
 195 200 205  
 Ser Ser Ser Ser Asn Thr Thr Lys Lys Pro Glu Pro Pro Val Asn Leu  
 210 215 220  
 Lys Tyr Asn Ala Pro Thr Ser His Val Thr Pro Ser Val Lys Lys Arg  
 225 230 235 240  
 Ser Ser Thr Leu Ser Gln Leu Pro Gly Asp Lys Ser Lys Ala Phe Asp  
 245 250 255  
 Phe Leu Ser Glu Glu Thr Glu Ala Ser Leu Ala Ser Arg Arg Glu Gln  
 260 265 270  
 Lys Arg Glu Gln Tyr Arg Gln Val Lys Ala His Val Gln Lys Glu Asp  
 275 280 285  
 Gly Arg Val Gln Ala Phe Gly Trp Ser Leu Pro Gln Lys Tyr Lys Gln  
 290 295 300  
 Val Thr Asn Gly Gln Gly Glu Asn Lys Met Lys Asn Leu Pro Val Pro  
 305 310 315 320  
 Val Tyr Leu Arg Pro Leu Asp Glu Lys Asp Thr Ser Met Lys Leu Trp  
 325 330 335  
 Cys Ala Val Gly Val Asn Leu Ser Gly Gly Lys Thr Arg Asp Gly Gly  
 340 345 350  
 Ser Val Val Gly Ala Ser Val Phe Tyr Lys Asp Val Ala Gly Leu Asp  
 355 360 365  
 Thr Glu Gly Ser Lys Gln Arg Ser Ala Ser Gln Ser Ser Leu Asp Lys  
 370 375 380  
 Leu Asp Gln Glu Leu Lys Glu Gln Gln Lys Glu Leu Lys Asn Gln Glu  
 385 390 395 400  
 Glu Leu Ser Ser Leu Val Trp Ile Cys Thr Ser Thr His Ser Ala Thr  
 405 410 415  
 Lys Val Leu Ile Ile Asp Ala Val Gln Pro Gly Asn Ile Leu Asp Ser  
 420 425 430  
 Phe Thr Val Cys Asn Ser His Val Leu Cys Ile Ala Ser Val Pro Gly  
 435 440 445  
 Ala Arg Glu Thr Asp Tyr Pro Ala Gly Glu Asp Leu Ser Glu Ser Gly  
 450 455 460  
 Gln Val Asp Lys Ala Ser Leu Cys Gly Ser Met Thr Ser Asn Ser Ser  
 465 470 475 480  
 Ala Glu Thr Asp Ser Leu Leu Gly Gly Ile Thr Val Val Gly Cys Ser  
 485 490 495

Ala Glu Gly Val Thr Gly Ala Ala Thr Ser Pro Ser Thr Asn Gly Ala  
 500 505 510  
 Ser Pro Val Met Asp Lys Pro Pro Glu Met Glu Ala Glu Asn Ser Glu  
 515 520 525  
 Val Asp Glu Asn Val Pro Thr Ala Glu Glu Ala Thr Glu Ala Thr Glu  
 530 535 540  
 Gly Asn Ala Gly Ser Ala Glu Asp Thr Val Asp Ile Ser Gln Thr Gly  
 545 550 555 560  
 Val Tyr Thr Glu His Val Phe Thr Asp Pro Leu Gly Val Gln Ile Pro  
 565 570 575  
 Glu Asp Leu Ser Pro Val Tyr Gln Ser Ser Asn Asp Ser Asp Ala Tyr  
 580 585 590  
 Lys Asp Gln Ile Ser Val Leu Pro Asn Glu Gln Asp Leu Val Arg Glu  
 595 600 605  
 Glu Ala Gln Lys Met Ser Ser Leu Leu Pro Thr Met Trp Leu Gly Ala  
 610 615 620  
 Gln Asn Gly Cys Leu Tyr Val His Ser Ser Val Ala Gln Trp Arg Lys  
 625 630 635 640  
 Cys Leu His Ser Ile Lys Leu Lys Asp Ser Ile Leu Ser Ile Val His  
 645 650 655  
 Val Lys Gly Ile Val Leu Val Ala Leu Ala Asp Gly Thr Leu Ala Ile  
 660 665 670  
 Phe His Arg Gly Val Asp Gly Gln Trp Asp Leu Ser Asn Tyr His Leu  
 675 680 685  
 Leu Asp Leu Gly Arg Pro His His Ser Ile Arg Cys Met Thr Val Val  
 690 695 700  
 His Asp Lys Val Trp Cys Gly Tyr Arg Asn Lys Ile Tyr Val Val Gln  
 705 710 715 720  
 Pro Lys Ala Met Lys Ile Glu Lys Ser Phe Asp Ala His Pro Arg Lys  
 725 730 735  
 Glu Ser Gln Val Arg Gln Leu Ala Trp Val Gly Asp Gly Val Trp Val  
 740 745 750  
 Ser Ile Arg Leu Asp Ser Thr Leu Arg Leu Tyr His Ala His Thr Tyr  
 755 760 765  
 Gln His Leu Gln Asp Val Asp Ile Glu Pro Tyr Val Ser Lys Met Leu  
 770 775 780  
 Gly Thr Gly Lys Leu Gly Phe Ser Phe Val Arg Ile Thr Ala Leu Met  
 785 790 795 800  
 Val Ser Cys Asn Arg Leu Trp Val Gly Thr Gly Asn Gly Val Ile Ile  
 805 810 815

Ser Ile Pro Leu Thr Glu Ser Lys Tyr Ile Phe Arg  
820 825

<210> 200  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 200  
tnaggtttgc acttcttctt gcaaattcc 29

<210> 201  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 201  
cnaatatctg agtctgtcct gcgggactc 29

<210> 202  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 202  
cnggctctgt gatggctgaa tggaaagaa 29

<210> 203  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 203  
angagtccaa ttaaagaacg aaaagcggg 29

<210> 204  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 204  
cntcagcttg ggcaagagta aagagggca 29

<210> 205  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 205  
tnatttaaga tgctgtgtaa gcctctcgc 29

<210> 206  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 206  
tntctgtgtg cacagagctt tggagtggc 29

<210> 207  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 207  
gnttggattc tctggcagag tacacctgc 29

<210> 208  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 208  
gnaggcatat cttttacagg ttcagctcc 29

<210> 209  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 209  
cncagtgaga caggtagtag gagccagat 29

<210> 210  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 210  
angtaaattc cagccaggat gatggccgc 29

<210> 211  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 211  
tngagtgtgg aattgcgctt cttacctat

29

<210> 212  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 212  
gngtgaagtc ttcctgggaa ccataatct

29

<210> 213  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 213  
tnttcctga agagctggag aggtgctaa

29

<210> 214  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 214  
gntctaccat gtgaagaagg aacgcaaaa 29

<210> 215  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 215  
tnggcaaagc tgtgctgcag gatagagtg 29

<210> 216  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 216  
angtgaagga ctgtaagccc acacaagct 29

<210> 217  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 217  
tnatgacagc ccaggctgtg ttatctgca 29

<210> 218  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide



<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 218  
cngggccttc gttttcacta ccttcagaa 29

<210> 219  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 219  
tnaagacggt gactgagagg cagacaagg 29

<210> 220  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 220  
tncctagtcc ctttaggtag ctctgcaga 29

<210> 221  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 221  
gngcacgaga aagaaggcga ggatggcta 29

<210> 222  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 222  
tnggacactg tggattctga gtcttgtgg 29

<210> 223  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 223  
ancaggaggc agtgggttct atagagtcc 29

<210> 224  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 224  
cncttggtg cctgtttctc aattgcaga 29

<210> 225  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 225  
cnctagctgt tcggctttac caaggagtt 29

<210> 226  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 226  
ancacgctct gacgaatgag caacctctc

29

<210> 227  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 227  
cnaacacaga ctggaagcct agagtcgct

29

<210> 228  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 228  
gnaaaccagg aaatgtacac tgacacaat

29

<210> 229  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 229  
tnatcaatac tggtgacagt ctgctccaa 29

<210> 230  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 230  
gncataaccc tttgcacgaa gctgatctt 29

<210> 231  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 231  
anatttaagc atttaacgtg aaggatagg 29

<210> 232  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 232  
tnagagactg ggaaaccaac agccactgc 29

<210> 233  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 233  
anggagcaag ttcctgagag tatectgtt 29

<210> 234  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 234  
anggagcaag ttcctgagag tatectgtt 29

<210> 235  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 235  
gnatggaggg agagagaaca caaattaac 29

<210> 236  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 236  
gngacagtgt tgtgctgaag caggattcc 29

<210> 237  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 237  
cntctccaac ttccacaatt tgctcacta 29

<210> 238  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 238  
tnggaggaag agtggcagag gagcttata 29

<210> 239  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 239  
cngtggttttg ttcttaggaa ggtagaagc 29

<210> 240  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 240  
cngccagcca gcagcaaagc aaattaaga 29

<210> 241  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 241  
tngaggaaag aagggtggag gtctgcaca

29

<210> 242  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<400> 242  
cgggtgggatt tatttaacat gatcttggc

29

<210> 243  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<400> 243  
ccaatgggta tgatgatggg tcttcct

27

<210> 244  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 244  
anggatgcca tccagatgag gccacagct

29

<210> 245  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc\_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 245

ancttcttct gcagtcatt caactcctg

29

<210> 246

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc\_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 246

gntcctccta gaccacaaag tagaaagca

29

<210> 247

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc\_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 247

gnctgacttt ctctccagtt tgtgaaatc

29

<210> 248

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc\_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 248

gngtggggtg aaaagggat gattaggga

29

<210> 249

<211> 29



<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 249  
tnattcatgg gcagctcatt ggcgggctc

29

<210> 250  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 250  
cngctgagac tcacacactg aatttcctt

29

<210> 251  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 251  
cntcttggtc cggatgatgt ttttatcac

29

<210> 252  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 252

tntctcggtta tatggaggac gaatagact

29

<210> 253

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<400> 253

ctctttatga gcatgatatg gcttcag

27

<210> 254

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc\_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 254

cntgctgccc gacttaaact gagaaccaa

29

<210> 255

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc\_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 255

gnngacaact cccatagttg aggtttgtc

29

<210> 256

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc\_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 256

tnggaagagt gaccagggg cccaaagca

29

<210> 257  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 257  
cnctgcaagc gactgggtttt cagggctgt

29

<210> 258  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 258  
tngagccaag gagagagcag acaggctga

29

<210> 259  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 259  
anccccaga agtacaagga catgccaag

29

<210> 260  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)

<223> biotinylated phosphoramidite residue

<400> 260  
cnatagcatc agcatcaaca tggtagaca

29

<210> 261  
<211> 27  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<400> 261  
ctccattctc cttgactatc ttctccc

27

<210> 262  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 262  
tncctggtgc catcatgatt gtaggagc

29

<210> 263  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 263  
anaggctcct ccattcctac agccatctt

29

<210> 264  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 264  
cngtccaact gcttgtaggt tatagcaga 29

<210> 265  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 265  
tnctctactt cacccttttc ggtgcatcg 29

<210> 266  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 266  
tncataaaat gacccacac ctctactg 29

<210> 267  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 267  
gngaggtagc caggcatctc tgtgcattt 29

<210> 268  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 268  
ancacagcag gaggtgagga ggaggagat 29

<210> 269  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 269  
cnttgatctg agagcttttc accgtcaag 29

<210> 270  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 270  
anctgccaag aagaggagag tggtaaatt 29

<210> 271  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 271  
angaaaaaga agtgtcatga tccagtaca 29

<210> 272  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 272  
tnataacttgg acaggataga gcgaggttt 29

<210> 273  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 273  
cncgactgcc ttaaaatgta aacctggat 29

<210> 274  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 274  
tngcactggg aaagtgattg tgaggagta 29

<210> 275  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 275  
tngtgctgcc aaagaacagg agcctcaaa 29

<210> 276  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<400> 276  
ctgctgctca tttgttcaat aatgtcaac

29

<210> 277  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 277  
tngcactgtt gtcacgacgg cttggtctc

29

<210> 278  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 278  
anaacagagc agtcacagagg aagaacatc

29

<210> 279  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> oligonucleotide

<220>  
<221> misc\_feature  
<222> (2)  
<223> biotinylated phosphoramidite residue

<400> 279  
anatgaccag atcctctcag aagatttcc

29

<210> 280



<211> 29  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (2)  
 <223> biotinylated phosphoramidite residue

<400> 280  
 tnccagtgc tgggcatgca tgaaggcta 29

<210> 281  
 <211> 29  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (2)  
 <223> biotinylated phosphoramidite residue

<400> 281  
 ancagcaaac tcttcctttc gcttgctgc 29

<210> 282  
 <211> 29  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> oligonucleotide

<220>  
 <221> misc\_feature  
 <222> (2)  
 <223> biotinylated phosphoramidite residue

<400> 282  
 tntttctcac aggtcagttc atccacttt 29

<210> 283  
 <211> 57  
 <212> PRT  
 <213> Homo sapiens

<400> 283  
 Met Cys Arg Pro Phe Leu Ser Leu Leu Leu Cys Ser Thr Lys Cys Phe  
 1 5 10 15

Leu Leu Cys Gly Leu Gly Gly Thr His Val Thr Phe Val Ser Cys Ser  
 20 25 30

Lys Ala Gly Ala Thr Pro Ser Ser Leu Phe Ser Thr Gln His Gln Ala

35

40

45


Leu Ser Arg His Pro Ile Asn His Cys  
50 55

Applicant's or agent's file reference 1290.1001010	International application No. <b>PCT/US 00/25135</b>
--	---

INDICATIONS RELATING TO DEPOSITED MICROORGANISM  
OR OTHER BIOLOGICAL MATERIAL

(PCT Rule 13bis)

A. The indications made below relate to the deposited microorganism or other biological material referred to in the description on pages <u>333</u> to <u>335</u> , line <u>35</u> to <u>36</u>	
B. IDENTIFICATION OF DEPOSIT	
Further deposits are identified on an additional sheet <input type="checkbox"/>	
Name of depositary institution <b>AMERICAN TYPE CULTURE COLLECTION</b>	
Address of depositary institution (including postal code and country) <b>American Type Culture Collection (ATCC) 10801 University Boulevard Manassas, Virginia 20110-2209 United States of America</b>	
Date of deposit <b>see Attachment A</b>	Accession Number <b>see Attachment A</b>
C. ADDITIONAL INDICATIONS (leave blank if not applicable) This information is continued on an additional sheet <input checked="" type="checkbox"/>	
In respect of those designations for which a European patent is sought, the Applicant(s) hereby informs the International Bureau that the Applicant wishes that, until the publication of the mention of the grant of a European patent or for 20 years from the date of filing if the application is refused or withdrawn or deemed to be withdrawn, the biological material deposited with the American Type Culture Collection under Accession No. <u>see Attachment A</u>	
D. DESIGNATED STATES FOR WHICH INDICATIONS ARE MADE (if the indications are not for all designated States)	
E. SEPARATE FURNISHING OF INDICATIONS (leave blank if not applicable)	
The indications listed below will be submitted to the International Bureau later (specify the general nature of the indications e.g., "Accession Number of Deposit")	

For receiving Office use only	For International Bureau use only
<input checked="" type="checkbox"/> This sheet was received with the international application	<input type="checkbox"/> This sheet was received by the International Bureau on:
Authorized officer 	Authorized officer

**INDICATIONS RELATING TO A DEPOSITED MICROORGANISM**  
**(Additi nal Sheet)**

**C. ADDITIONAL INDICATIONS (Continued)**

shall be made available as provided in ~~Rule 28(3) EPC only~~ by the issue of a sample to an expert nominated by the requester (Rule 28(4) EPC).

In respect of the designation of Australia in the subject PCT application, and in accordance with Regulation 3.25(3) of the Australian Patents Regulations, the Applicant hereby gives notice that the furnishing of a sample of the biological material deposited with the American Type Culture Collection under Accession No. ~~Atta chement A~~<sup>SEPC</sup> shall only be effected prior to the grant of a patent, or prior to the lapsing, refusal or withdrawal of the application, to a person who is a skilled addressee without an interest in the invention and who is nominated in a request for the furnishing of a sample.

In respect of the designation of Canada in the subject PCT application, the Applicant hereby informs the International Bureau that the Applicant wishes that, until either a Canadian patent has been issued on the basis of an application or the application has been refused, or is abandoned and no longer subject to reinstatement, or is withdrawn, the Commissioner of Patents only authorizes the furnishing of a sample of the biological material deposited with the American Type Culture Collection under Accession No. ~~Atta chement A~~<sup>SEPC</sup> and referred to in the application to an independent expert nominated by the Commissioner.

## Attachment A

-1-

Deposit of Clones

Clones AX65\_22, BD335\_14, BG241\_1, BL187\_4, BL249\_18, BO71\_1, BO365\_2, BV51\_1, BV140\_3, BV141\_2, CC194\_4, and DA136\_11 were deposited on October 3, 1996 with the ATCC (American Type Culture Collection, 10801 University Boulevard, Manassas, Virginia 20110-2209 U.S.A.) as an original deposit under the Budapest Treaty and were given the accession number 98196, from which each clone comprising a particular polynucleotide is obtainable.

Clones AR415\_4, AS63\_29, BG160\_1, BO432\_4, BO538\_2, BR595\_4, CI490\_2, CI522\_1, CN238\_1, CO390\_1, and AY304\_1 (an additional isolate of clone AY304\_14) were deposited on October 25, 1996 with the ATCC (American Type Culture Collection, 10801 University Boulevard, Manassas, Virginia 20110-2209 U.S.A.) as an original deposit under the Budapest Treaty and were given the accession number 98232, from which each clone comprising a particular polynucleotide is obtainable. Clone AY304\_14 was deposited on October 23, 1997 with the ATCC (American Type Culture Collection, 10801 University Boulevard, Manassas, Virginia 20110-2209 U.S.A.) as an original deposit under the Budapest Treaty and was given the accession number 98561.

Clones AJ20\_2, AR440\_1, AS164\_1, AX8\_1, BD176\_3, BD339\_1, BD427\_1, BL229\_22, BV123\_16, and CH377\_1 were deposited on November 15, 1996 with the ATCC (American Type Culture Collection, 10801 University Boulevard, Manassas, Virginia 20110-2209 U.S.A.) as an original deposit under the Budapest Treaty and were given the accession number 98261, from which each clone comprising a particular polynucleotide is obtainable.

Clones BD441\_1, BD441\_2, BG102\_3, BK158\_1, BP163\_1, BZ16\_3, CC182\_1, CG109\_1 and CJ397\_1 were deposited on November 20, 1996 with the ATCC (American Type Culture Collection, 10801 University Boulevard, Manassas, Virginia 20110-2209 U.S.A.) as an original deposit under the Budapest Treaty and were given the accession number 98264, from which each clone comprising a particular polynucleotide is obtainable.

Clones AM795\_4, AT340\_1, BG132\_1, BG219\_2, BG366\_2, BV172\_2, CC247\_10, CI480\_9, CO722\_1, and CT748\_2 were deposited on December 5, 1996 with the ATCC (American Type Culture Collection, 10801 University Boulevard, Manassas, Virginia 20110-2209 U.S.A.) as an original deposit under the Budapest Treaty and were given the accession number 98271, from which each clone comprising a particular polynucleotide is obtainable.

Clones AJ1\_1, AQ73\_3, BG142\_1, BV66\_1, BV291\_3, CK201\_1, CQ331\_2, CT550\_1, CT585\_1 and CT797\_3 were deposited on December 13, 1996 with the ATCC

## Attachment A

-2-

(American Type Culture Collection, 10801 University Boulevard, Manassas, Virginia 20110-2209 U.S.A.) as an original deposit under the Budapest Treaty and were given the accession number 98278, from which each clone comprising a particular polynucleotide is obtainable.

Clones CB107\_1, CG300\_3, CJ145\_1, CJ160\_11, CO20\_1, CO223\_1, CO310\_2, CP258\_3, CW1155\_3 and CZ247\_2 were deposited on December 17, 1996 with the ATCC (American Type Culture Collection, 10801 University Boulevard, Manassas, Virginia 20110-2209 U.S.A.) as an original deposit under the Budapest Treaty and were given the accession number 98279, from which each clone comprising a particular polynucleotide is obtainable. Clone CO223\_3 was deposited on January 9, 1997 with the ATCC (American Type Culture Collection, 10801 University Boulevard, Manassas, Virginia 20110-2209 U.S.A.) as an original deposit under the Budapest Treaty and was given the accession number 98291.

Clones AM666\_1, BN387\_3, BQ135\_2, CR678\_1, CW420\_2, CW795\_2, CW823\_3, DF989\_3, DL162\_2, DL162\_1, and EC172\_1 were deposited on January 10, 1997 with the ATCC (American Type Culture Collection, 10801 University Boulevard, Manassas, Virginia 20110-2209 U.S.A.) as an original deposit under the Budapest Treaty and were given the accession number 98292, from which each clone comprising a particular polynucleotide is obtainable.

## INTERNATIONAL SEARCH REPORT

International Application No

I US 00/25135

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/12 C07K14/47 C12N1/21 C12N5/10 C12Q1/68  
A61K38/17

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, STRAND

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X, L	WO 98 17687 A (GENETICS INST) 30 April 1998 (1998-04-30) the document throws doubt on the priority of the application abstract; claims 20-22 see SEQ ID NO: 8 and 9 (pp.73-77) page 18, line 30 -page 20, line 2 page 23, line 12 -page 24, line 14 page 31, line 12 -page 64, line 16 -----	1-11

☐ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

14 December 2000

Date of mailing of the international search report

30.01.01

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Oderwald, H

# INTERNATIONAL SEARCH REPORT

national application No.  
PCT/US 00/25135

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-11

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.



FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-11

An isolated polynucleotide comprising SEQ ID NO: 41 which encodes a protein of SEQ ID NO: 42 (BG160\_1). A host cell, a process for producing said protein, a protein produced by said process, a composition comprising said protein.

2. Claims: 12, 13

An isolated polynucleotide comprising SEQ ID NO: 129. A protein encoded by said polynucleotide having amino acid sequence SEQ ID NO: 130 (C0722\_1).

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9817687 A	30-04-1998	AU 5004097 A EP 0960199 A	15-05-1998 01-12-1999
-----			